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ILLINOIS MEDICAL JOURNAL

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Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 6321 Kenmore Avenue, Chicago.

Membership correspondence to Dr. Wm. D. Chapman, Silvis, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

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Editorial

ILLINOIS STATE MEDICAL SOCIETY MEETING

To avoid conflict with the meeting date of the American Medical Association, the annual meeting of the Illinois State Medical Society will be held in Springfield on May 6, 7, 8, 1924. The programme is as follows:

Medicine, 16 papers.

Surgery, 16 papers.

Eye, Ear, Nose and Throat, 14 papers.

Public Health and Hygiene, 14 papers.

Owing to the fact that the complete programme must be carried by the April issue of the JOURNAL, it is necessary that the completed programme of each section be delivered at the secretary's office (Dr. W. D. Chapman, Silvis, Illinois), during the first week of March or earlier.

The following rules are to be observed:

All papers by members shall be limited to twenty minutes and remarks in discussion to five minutes, floor privilege being allowed only once for the discussion of any one subject.

All papers read before the society or any of its sections shall become the property of the society. Each paper shall be deposited with the Secretary when read, and the presentation of a paper to the Illinois State Medical Society shall be considered tantamount to the assurance on the part of the writer that such paper has not already appeared and will not appear in medical print before it has been published in the ILLINOIS MEDICAL JOURNAL.

A paper not heard in its scheduled turn shall be held subject to the call of the Chairman of the section at the end of that regular session, if time permits; and, as an alternative, at the end of the program.

All discussions shall be confined strictly to the subject in hand.

No paper shall appear in the printed trans-

actions of the meeting unless read in full or in abstract.

The officers of the several sections are as follows:

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Secretary, D. J. Lynch, 6548 Glenwood Ave., Chicago.

The Society:
President, E. H. Ochsner, Chicago.
Secretary, W. D. Chapman, Silvis, Ill.

LITERATURE DEALING WITH THE QUACK PROBLEM AT YOUR DISPOSAL

A pamphlet entitled "Some Facts Worth Knowing" has been gotten out by the State Society, copies of same can be had gratis by writing to the Secretary of the State Society, Dr. W. D. Chapman, Silvis, Illinois. This pamphlet sets forth first facts about all the cults, and second a few of the accomplishments of the medical profession. Patients making inquiry about the cults should be handed one of these reprints and asked to carefully read it. In this way much valuable time and unnecessary controversy is avoided and the inquiring patient will actually get reliable information as to what the medical profession stands for and what it has accomplished in the prevention and elimination of disease and how inadequately prepared to treat human ills all the cultists are.

The supply of this pamphlet is unlimited and we suggest that every Doctor in the State distribute the pamphlet freely among his patients. If this is done quite universally it will help materially in the State Society's plan for educating the public and will lessen materially the burden of the committee who has charge of the responsibility of the lay educational campaign.

FEDERAL AID BILLS IN CONGRESS

Doctors still condemn the principle of federal aid as pernicious and dangerous, that it is an encroachment on the function of the state and an invasion of State authority tending to a demoralization of the state and public health work, rather than its development. A dangerous federal aid measure has recently been introduced in the House of Representatives. It is known as H. R. 5795, "House of Representatives, January 19, 1924." "Introduced by Mr. Frederick W. Ballinger and referred to the Committee on Education."

"A Bill to Establish a Department of Education and Welfare, and for Other Purposes."

The bill is a part of a proposed reorganization plan. The department will combine, education, public health, social service, pensions, veterans bureau, hospitalization, soldiers' homes.

Dr. Sawyer testified last year for the year just closing that the expense of these four divisions involve $701,596,000, the present bill does not in terms provide federal aid but transfers existing federal aid bureaus, namely, maternity, vocational education, soldiers rehabilitation, etc. We quote the bill as follows: "Be it enacted by the senate and house of representatives of the United States in Congress assembled, that there is established at the seat of government an executive department to be known as the Department of Education and Welfare *for the purpose of protecting and promoting the education, health and social welfare of the people of the United States.*

The Illinois members on this committee are: Hon. Edward J. King, representing the counties of Galesburg, Knox, Henry, Fulton, Schuyler, and Adams. Hon. William P. Holaday, of Georgetown, representing the counties of Kankakee, Iroquois, Vermillion, Edgar, Clark and Cumberland Counties.

Public education, public health and all other functions not specifically delegated to the Federal government by the U. S. Constitution, have been and properly are functions of State and Local Government. With a Federal department to oversee these activities and dispense federal grants in aid, existing and demanded, practically all effective direction will come in the future from Washington. Add to them public safety and the courts and our Union of Sovereign States will be completely a thing of the past. Illinois will be

one of six or seven States putting up more than fifty per cent of the cost of government and with mighty little to say about what goes on within her own borders, including how the money is spent which is levied and collected by local taxation.

The simple department of education Bill with $20,000,000 Federal aid for physical education, $15,000,000 for "Americanization", $15,000,000 for teachers and $50,000,000 for general education, is of some stripe.-50-50.

The Sterling-Reed Bill is a separate bill, is known as the Education Department Bill (s 1337; H. R. 3923) introduced by Senator Thomas Sterling (Rep., S. Dak.). He and the national education association will oppose the Education and Welfare Department, but demand instead, the creation of a separate department of education as proposed in his bill.

The Sterling-Reed Bill provides for $200,000,000 per year ($100,000,000 Federal, $100,000,000 State). This bill will have separate hearings, before Senate and House Education Committees.

Both these Federal departments should be opposed. All should send telegrams, resolutions or briefs in opposition to the Welfare Department to Senator James W. Wadsworth, Jr., (a member of the reorganization committee) requesting that they be inserted in the record of the hearing.

NOTE: It should be remembered that the Sterling-Reed Bill would cost $200,000,000, or about the same as the bonus ($250,000,000) a year, first four years, and $211,000,000 a year for twenty years says Secretary Mellon). That the "welfare" department, as Dr. Sawyer testified would control $700,000,000 a year; and that the two together would mean a new $900,000,000 a year Federal department which would quickly become a billion dollar department, and increase taxes as much as the bonus, while controlling education, public health, etc., in a manner which would menace the public more than the increase of taxes involved.

We agree with ex-Governor Lowden of Illinois and other great thinking men of the country as well as the influential newspapers of the land that if the present tendency towards centralization at Washington go on that all vitality will go from the several communities and states of the country in the management of their own affairs and that when this condition is brought about the country will be in ruin and in no department of government is the situation more menacing than in the health welfare of the people.

CLINICS RUN BY THE STATE HEALTH DEPARTMENT—REPORT OF STATE SOCIETY COUNCIL COMMITTEE ON SAME

At the January meeting of the council of the State Society Dr. H. M. Camp, chairman of the Council State Society Committee on Clinics, presented the following report, which was adopted:

PREAMBLE:

We Believe: 1. that physicians of the state of Illinois are, as a class, more vitally interested in all matters pertaining to the promotion of public health and health regulation than any others, and that the enforcement of existing rules and regulations of the state department of health depend upon the co-operation and assistance given by the medical profession, because the physician comes more closely in contact with the public—from the health standpoint.

We Believe: 2. that the state Department of Health should be most interested and active in promotion of health and the conservation of life, but it should limit itself to function only through measures of Education and Preventive medicine with exception of:

a. The Case of inmates of State institutions, i. e., Penitentiaries, Homes for aged and orphans, Reform Schools, etc.

b. Contagious cases where local authorities are unable to cope with the situation.

We Believe: 3. that all state subsidies pertaining to health should be limited and that the problem of free clinics and indigent care should be given most serious consideration, in order that the state refrain from a growing tendency of pauperizing its people and in order that there be no encroachment upon the legitimate rights and the privileges of the medical profession.

We Believe: 4. in and approve of free clinics for the indigent but feel that the supervision of such clinics should be directly under the control of the local medical profession.

We Believe: 5. all questions pertaining to the practice of medicine and the prevention of disease should be submitted, by the Director of Public Health for consultation, to the medical pro-

fession—as represented by the Illinois Medical Society.

In accordance with the above we submit the following resolution:

Whereas, the medical profession of the State of Illinois are agreed, in the common opinion, that the State Board of Health of Illinois has gone beyond its legitimate bounds in certain matters of Public Health, and

Whereas, physicians of Illinois feel that they should have some representative voice in public health matters, which they at present have not, and should be privileged in helping shape the policies of the Illinois State Board of Health.

BE IT THEREFORE RESOLVED: that, we, the Council of the Illinois State Medical Society, through our good offices, offer to the Director of the Department of Public Health our hearty co-operation and place at his disposal our services which we feel might be helpful, and

BE IT FURTHER RESOLVED: that we petition the Director of Public Health for a parlance, annually or semi-annually as the case may necessitate, or as it may be desired, in furtherance of a plan for harmony, the State's welfare and the public's good.

RECIPROCITY WITH THE ADVERTISERS IN THE JOURNAL

OTHER COUNTY MEDICAL SOCIETIES PLEASE COPY

At a meeting of the central Illinois Radiological Society held at Peoria, January 26, 1924, the following resolution was adopted.

Whereas: The ILLINOIS MEDICAL JOURNAL is our Journal in which we are equally interested financially. Therefore, be it resolved: That in purchasing supplies we give a decided preference to the Company's advertising in the Illinois State Medical Journal.

Unanimously adopted by the Central Illinois Radiological Society in regular session assembled at Peoria, Ill., this twenty-sixth day of January, 1924.

Dr. Perry B. Goodwin, Sec'y.

TWO OTHER SOCIETIES FOLLOW SUIT

At the meeting of the central Illinois Radiological Society held at Peoria, January 26, 1924, a resolution was presented by Dr. Cantrell and adopted to the effect that members of the organization give a decided preference to advertisers in the State Journal when buying slides, equipment, etc.

At the meeting of the American Association for the study of goiter held in Bloomington, Illinois, January 23-25, 1924, with several hundred in attendance, all were urged to buy from advertisers from State Journal when possible to do so.

Two hospitals in Bloomington refuse to buy from any one unless he is an advertiser in the State Journal. The McLean County Medical Society has passed such resolution and the members as a whole are sticking by it in good shape.

The following anonymous verse contains a note of warning to the retailer who does not see the desirability of advertising his store occasionally:

MAY HE REST IN PEACE

Breathes there a man with soul so dead,
Who never to himself hath said:
"My trade of late is getting bad,
I'll try another ten-inch ad."
If such there be go mark him well
For him no bank account shall swell;
No angel watch the golden stair
To welcome home a millionaire.
The man who never asks for trade
By local line or ad. displayed
Cares more for rest than worldly gain,
And patronage but gives him pain.
Tread lightly, friends, let no rude sound
Disturb his solitude profound;
Here let him live in calm repose
Unsought except by men he owes,
And when he dies go plant him deep,
That naught may break his dreamless sleep:
Wherein no clamor may dispel
The quiet that he loved so well;
And that the world may know its loss
Place on his grave a wreath of moss;
And on a stone above: "Here lies
A Chump who wouldn't advertise."

Doctor, this is your journal, it becomes, therefore a privilege, as well as an obligation, of our readers to patronize our advertisers. Let us be consistent as joint owners in our Journal, and buy goods from our patrons, in other words the advertisers in the Journal.

THE DOCTOR

But the warm, ready, self-forgotten friend,
Not the mere artist, purchased to attend,
Whose genial visit in itself combines
The best of cordials, tonics, anodynes.

OLIVER WENDELL HOLMES, M.D.

ROTARY CLUBS SHOULD NOT CONDUCT CRIPPLED CHILDREN'S CLINICS

At the January meeting of the State Society council the following resolution was read, adopted and ordered published in the JOURNAL:

WHEREAS, The Rotary Clubs of Illinois have seen fit to conduct Crippled Children's Clinics throughout the State, under their auspices, and

WHEREAS, we, the Medical Profession of Illinois feel that this would cause an unfavorable reaction among the profession in the State, and

WHEREAS, we feel that the Rotary Clubs should not enter in Medical Practice, and that the local medical men, many of whom are Rotarians, can efficiently render this same service,

BE IT HEREBY RESOLVED, that we, the Illinois Medical Society, through its Council, condemn and advise against such arrangements, and recommend that these crippled children's clinics supported by Rotary be conducted by the local medical and surgical men in the various counties where same are to be conducted, and

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to the Rotary Clubs of Illinois, with the assurance that the State Medical Society will heartily co-operate with them in arranging for such County Crippled Children's Clinics as are herewith suggested.

A SAMPLE OF STATE MEDICINE DUPLICATING WORK—THE TAXPAYER FOOTING THE BILLS.

The following from the BULLETIN of the Chicago Medical Society is hereby published for the information of the medical profession.

MUNICIPAL TUBERCULOSIS DISPENSARIES

There appeared in the Bulletin of July 28th, 1923, copy of a certain order requiring each of the school tuberculosis physicians to refer at least four suspect cases each week to the M. T. D. in order that the machinery might continue to grind, and those on the M. T. D. payroll might continue to draw their salaries.

The Medical Society has no way of checking up on these Dispensaries, but we do know that not only the people of Chicago, but the profession as well are being imposed upon and the taxpayers' money being spent under the guise of suspects.

The article below is very illuminating and will open the eyes of the medical profession to the insidious inroad that State Institutions are making on the liberty of our people. Is it not time that the medical profession go to Springfield (in a body, if necessary) and insist on a change in our present law requiring over 21,000 of our children under the pretext of suspect T. B. to be treated free of charge when they should be under the care of their own family physician?

It is only another form of socialism or state medicine.

We believe the Council of Chicago Medical Society should give this matter its earliest attention.—Editor.

January 25, 1924.

To the Member of the Chicago Medical Society:

The Dispensary Division of the Municipal Tuberculosis Sanitarium has been rapidly increasing in cost during the last few years. This cost in 1923 exceeded half a million dollars.

The records of the work done—patients examined, patients under treatment, patients visited in their homes and patients sent to the sanatorium—justifies one in the belief that the present policy and routine should be revised. A plan which modifies the present status of the group of nine full-time $5,000.00 a year dispensary physicians was suggested. This plan is vigorously opposed on the basis of curtailing the benefits of the "poor", (patient, not doctor).

Following are some of the interesting records:

1. 24,360 patients are "under treatment" by the 21 dispensary doctors. Of this number 1630 are positively tuberculous with positive sputum, but 569 of these are under the care of private physicians. If only one in 20 of those "under treatment" are positively tuberculous one is justified in wondering what the other 19 are being treated for. Perhaps some are "suspected" of being sick, but surely not all of them.

2. The dispensary doctors pass on all those to be admitted to the Sanatorium. In 1922 there were 2337 patients discharged from the Sanatorium. Of this number 853 at the time they were admitted (not the time they were discharged) to the Sanatorium were classed as "non-tuberculous." This institution was built to care for those having tuberculosis. It is evidently being used for other purposes.

3. The 21 dispensary doctors during 1923 made 570 home calls on patients—an average of

one call for each doctor every two weeks. It is stated that over 1000 open active pulmonary cases are "under treatment" by the dispensary doctors. It seems reasonable to assume that at least a fair percentage of these cases are too sick to come to a dispensary. If they are "under treatment," it must be "absent treatment."

4. Of those under observation, 21,870 or 63.6 per cent are children—mostly school children. This work is a duplication as the children are also "under observation" of 50 school physicians who are also paid from the tuberculosis fund.

5. The tuberculosis visiting nurse has been instructed that she was an instructor, a teacher and only incidentally a nurse. Hence, the absurd situation of a visiting nurse making regular calls on patients, but rendering no nursing service. In 1922 these nurses made 237,470 visits, but in only 2118 or less than one per cent. was there any nursing service rendered.

To those who have any ideas about "state medicine" this working out of a concrete example must be a startling revelation.

It is believed that the present eight tuberculosis dispensaries if kept open from 9 to 12:30 six days a week, and 7 to 9 two evenings a week, would adequately and generously meet every need in the districts now covered if the duplicating work with school children was eliminated. This change would make possible a plan for placing all full time dispensary doctors on a half time basis and reduce their salaries proportionately. The $5,000.00 men object. They are sure the "poor" would suffer. I am frank to say that this operation will probably require deep ether anesthesia.

JAMES A. BRITTON, M. D.,
Secretary Board of Directors,
Municipal Tuberculosis Sanitarium.

APPROVED PLAN FOR PERIODIC HEALTH EXAMINATIONS

At the January meeting of the council of the State Society it was moved and carried that the council recommend the co-operation of the society with the national association for the promotion of periodic health examinations and that the co-operation of the council be extended so long as the purposes be purely educative, and that Dr. E. H. Ochsner and Dr. C. J. Whalen be authorized to represent the council in this organization.

IN UNION THERE IS STRENGTH

Under present conditions no doctor can hope to succeed by considering himself only. Progress and integrity in medical practice can be brought about only by constant consideration of the importance and necessity of working in unison.

If physicians will only keep in mind the fact that whatever contributes towards the success of the profession as a profession adds to individual welfare we will prosper individually as the profession grows in numbers and influence. To win and to retain the confidence of the people is an advantage both to the individual and to the organization.

The most *worth while* doctor today is one who realizes that he is an essential cog in the great medical organization and that individual success depends largely on the success of the profession as a whole. "The whole is greater than the part."

It is time for the medical profession to realize that an era of professional prosperity awaits only the recognition on the part of physicians both individually and collectively, that the people will trust and respect only those who respect and trust each other, and that to a like degree. Confidence and respect for medicine itself by those who practice it, and more, tolerance for fellow workers is the keynote to success in present day practice of medicine.

THE BLIGHT OF STANDARDIZATION NOWHERE MORE MENACING THAN IN MEDICINE

President Eliot, of Harvard University, in discussing the subject of standardization says: "A new blight is affecting education and industries in the United States. *Its name is standardization.* It is obvious that standardization has become a dangerous adversary of progress in both education and industry. The ideal in education is to develop the utmost possible variety of individual attainment and group attainments; just as the true goal of democracy is the free development of the utmost variety of capacity in the individual citizen; the true educational goal is the utmost development of the individual's capacity or power, not in childhood and adolescence alone, but all through life. Fixed standards in labor, in study, in modes of family life, or of community life, are downright enemies of progress for the body, mind, and soul of man.

President Eliot did not mention medical education specifically. It is included, however, in

the general subject of education. Nowhere is the blighting curse of standardization and centralization of power more menacing to the welfare of the people than in medical education and hospitalization under the present system of self seeking exploiters.

Medicine has witnessed many strange dictatorships in her career, but none more interesting than the present day attempt of an aggregation of self appointed medico-politico mountebanks who seek to standardize not only their own specialty, but every other specialty that has to do with cure of human ills.

Five centuries B. C. the republic of Rome was launched upon the stormy sea of national life. Toward the end of the republic, after a career of war and conquest unexampled in human history, Rome was tottering to her fall. Mighty men stretched forth patriotic hands to save her from her friends, but all in vain.

Largely on account of the vast increase of wealth and power and of a simultaneous decay of the old Roman virtues there rose a crop of brilliant demagogues whose sole ambition was personal power and glory. No more could it be said "that none was for a party, but all were for the state." Sulla, Marius, Pompey, Caesar and Antony, all made the state a secondary consideration. Drunk with vanity and ambition to rule Rome or ruin her, they did both.

The power that ruined Rome was bribery at one extreme and greed at the other. Men accepted flattery and yielded to coercion in Rome. Some medical men are tarred with the same stick at the present time, but the betrayal of the rank and file by a few will be the ultimate destruction of the many. Too much faith has been put in mere promises. These will o' the wisps will land the profession on the rocks.

We say the present disposition of certain medical demagogues is a revival of the spirit, methods and purposes of pagan Rome. Present procedure, especially when viewed with the methods used in carrying out a seeming benevolence, is, to say the least, indelicate, un-American, and a departure from that dignity and faith which is becoming to the rank and file of the medical profession.

REST CURE

Housework is announced as a cure for neurasthenia. We have always suspected that our cook was really a duchess taking a rest cure.—*London Opinion.*

DOCTOR, ALLOW YOURSELF THE ENTERTAINMENT. READ A BOOK CALLED "CURES" BY JAMES J. WALSH, M. D.

The publicity committee of the Illinois State Medical Society suggests that every physician in Illinois allow himself the entertainment of reading a book called "Cures," by James J. Walsh, M. D., Ph. D., Sc. D. D. Appleton and Company, New York.

An appreciation of the quaint humor and excellent history contained in Dr. Walsh's book will lessen the labors of the committee much.

The publisher of Dr. Walsh's book offers the following introductory:

Dr. Walsh here reviews the history of the varied panaceas or human ills which the public have grasped at in the past and which win so many adherents at the present time. As old as human nature is this search for the remedy or the treatment that will alleviate human ills; and Dr. Walsh's entertaining style of writing and his medical knowledge are allied in a truly amazing record of the world's credulity. His viewpoint is one of fairness and impartiality. In his first chapter he tells of "The cures that have failed"—a surprising marshalling of facts running right down to our own day and generation. "Personal Healers" marked the whole course of the history of "cures," from the English King's cure of "King's evil" to such modern healers as Phineas Quimby and Dowie. Dr. Walsh carefully explains "drug cures" and "cures with a punch" (a surprising chapter). He tells of Mesmer, Dr. Elisha Perkins and his tractors, "absent treatment," Andrew Jackson Davis and others, "cures" through hypnotism, appliances, and manipulations. Among "mystical cures" the reader finds "Dr. Conan Doyle's spirit world," "Christian Science," and "religious cures." Psychoanalysis and Coue are the subjects of interesting analysis. The author in his preface says: "All down the centuries we have had all sorts of means for the cure of disease. They have come and gone. Nearly every substance on the earth or from under the earth or the heavens above has been used as a vaunted cure and has succeeded in a certain number of cases. Nearly every kind of persuasion, psychological, metaphysical, religious, superstitious, scientific, and above all pseudo-scientific has been used efficaciously in the same way."

This is the material out of which this book on

the cures that have failed has been made. Poor human nature when ailing, like the drowning man, grasps at a straw, only the amusing thing is that his mind so often turns the straw into a solid gleam of hope on which he floats into the harbor of good health when he thought he was seriously ill. Why should not human nature have its dilusions when they add to the happiness of men? It is not with the idea of eradicating the dilusions that this book is written, but so that we may altogether laugh a little quietly at this human nature of ours and its humorous ways.

COLORADO'S "MATERNITY LAW"

Colorado has a new "Maternity Law." It has some interesting features. Provisions are made for the expectant mother during the last six months of her pregnancy. The infant's welfare is assured during its first six months after birth. The operation of the law is in the hands of the Children's Court, over which Judge Ben Lindsay presides. Either the mother or friends may make application for relief which includes all varieties, from cash to medical and hospital care. All proceedings are conducted in the most confidential manner. Physicians and hospitals and nurses are paid for their services.

Unmarried mothers are given the same confidential care as others, including loss of identity in maternity hospitals. Infants of unmarried mothers will be placed in homes upon request. The law also gives the court wide authority in dealing with the father responsible for an illegitimate child.

It is claimed for this law that it requires no enlargement of government machinery and that its benefits are easily and confidentially available without red tape to any mother unable to pay the necessary costs of adequate assistance.

The power of the court to require fathers to accept financial and other responsibility for their illegal children is expected to reduce the cost of operating this law to the taxpayers.

This all sounds too good to be true.

ESTABLISHING A SCHOOL OF INSTRUCTION IN TUBERCULOSIS

At the meeting of the State Council in January Dr. J. W. Pettit of Ottawa outlined a proposal for a school of instruction for tuberculosis which the Illinois Tuberculosis Association might be able to place at the disposal of the several county societies. It was moved and carried that the council give its endorsement and moral support to such a plan conducted under the auspices of the Illinois State Medical Society and the Illinois Tuberculosis Association.

DR. ALBERT ABRAMS DIES

Dr. Abrams of electronic reactions fame died of pneumonia on the 13th of January at his home in San Francisco.

The death of Dr. Abrams removes a man who had become internationally known because he had developed more theories and promulgated more indefinite assertions than any other man of his time.

Dr. Abrams was subject to much ridicule by the scientists throughout the country. Several people submitted to him for diagnosis the blood of chickens, lambs, pigs, etc., and in most every instance he claimed that the creatures were suffering from syphilis, cancer, tuberculosis, etc.

We are interested in learning who will attempt to perpetuate Abrams' vagaries. In most freak systems that have arisen in the last century the vagaries have died with the originator.

DON'T FORGET YOUR INCOME TAX

I. WHO MUST MAKE RETURNS

Returns must be filed by the following persons: (1) every person, whether married or single, whose gross income during the year was $5,000 or more; (2) every married couple, living together, whose gross income was $5,000 or more; (3) every married couple, living together, whose net income was $2,000 or more, no matter what their gross income was; and (4) every unmarried person whose net income was $1,000 or more, no matter what his gross income was.

Blanks for making returns are sent to taxpayers by collectors of internal revenue, without request, merely as a matter of courtesy. The fact that such a blank has not been received does not excuse any one from making a return. If a taxpayer has not received a blank, he should apply for one to the collector of internal revenue in the district in which the taxpayer resides. All persons deriving any part of their incomes from businesses or professions, as distinguished from salaries and wages, and all persons whose net incomes, no matter from what source derived, were in excess of $5,000, must make returns on Form 1040. Full instructions as to what constitutes gross income and what net income and as to exemptions and allowable deductions, applicable to taxpayers generally, accompany the blank forms supplied by the collector. Physicians should refer to such forms with respect to matters of general interest. It is undertaken here to supply only

such information as is of special interest to the medical profession.

II. GROSS INCOME: WHAT IS IT?

A physician's gross income is the total amount of money received by him during the year from professional work, regardless of when the services were rendered for which the money was paid, plus such money as he has received as profits from investments and speculation, and as profits from other sources.

III. DEDUCTIONS FOR PROFESSIONAL EXPENSES

A physician is entitled to deduct, in computing his income tax, all current expenses necessary in carrying on his practice. The following statement shows what are regarded by the Commissioner of Internal Revenue as necessary expenses and how such expenses are to be computed in determining the amount to be deducted:

Office Rent.—Office rent is deductible. If a physician rents an office for professional purposes alone, the entire rent may be deducted. If he rents a building or apartment for use as a residence as well as for office purposes, he may deduct a part of the rental fairly proportionate to the amount of space used for professional purposes. If the physician occasionally sees a patient in his dwelling house or apartment, he may not, however, deduct any part of the rent as professional expense; in order to make such a deduction he must have an office there, with regular office hours. If a physician owns the building in which his office is located, he cannot charge himself with "rent" and deduct the amount so charged.

Office Maintenance.—Expenditures for office maintenance, as for heating, lighting, telephone service and the services of attendants, are deductible.

Supplies.—Payments for supplies for professional use are deductible. Supplies may be fairly described as articles consumed in the using; for instance, dressings, clinical thermometers, drugs and chemicals. Professional journals may be classified as supplies, and the subscription price deducted. Amounts currently expended for books, furniture and professional instruments and equipment, "the useful life of which is short," may be deducted, but if such articles have a more or less permanent value, their purchase price is a capital expenditure and is not deductible.

Equipment.—Equipment comprises property of more or less permanent value. It may ultimately be used up, deteriorate or become obsolete, but it is not in the ordinary sense of the word "consumed in the using"; rather, it wears out. Payments for nonexpendable property or equipment for professional use cannot be deducted. As property of this class may be named automobiles, office furniture, medical, surgical and laboratory equipment of permanent value, and instruments and appliances constituting a part of the physician's professional outfit and to be used over a considerable period of time. Books of more or less permanent value are regarded as equipment, and the purchase price is therefore not deductible.

Although payments for nonexpendable articles or equipment cannot be deducted, yet from year to year there may be charged off reasonable amounts as depreciation, sufficient to cover the lessened value of such property through obsolescence, ordinary wear and tear, or accidental injury. If, however, improvement to offset obsolescence and wear and tear or injury has been made, and deduction for the cost claimed elsewhere in the return, no claim should be made for depreciation. No hard and fast rule can be laid down as to the amount to be deducted each year. Everything depends on the nature and extent of the property and on the use to which it is put. Five per cent per annum has been suggested as a fair figure for depreciation on an ordinary medical library. Depreciation on an automobile would obviously be much greater. The physician must in good faith use his best judgment and make such allowance for depreciation as the facts justify. Depreciation should be computed on the basis of the amount paid for the article or, if purchased before March, 1913, when the first income tax law went into effect, on the basis of its estimated value at that time. Physicians who from year to year claim deductions for depreciation on nonexpendable property will do well to make annual inventories as of January 1 each year.

Medical Dues.—Dues paid to societies of a strictly professional nature are a legitimate professional expense and may be deducted. Dues paid to social organizations, even though their membership is limited to physicians, are personal expenses and not deductible.

Postgraduate Study.—The Commissioner of Internal Revenue holds that the expense of postgraduate study is a personal expense, and therefore not deductible. Efforts are being made to procure a reversal of this ruling.

Traveling Expenses.—Traveling expenses necessary for professional visits to patients are deductible. The Commissioner of Internal Revenue, however, still holds that traveling expenses incident to attendance at meetings of medical societies are merely personal expenses and therefore not deductible.

IV. AUTOMOBILES, ETC.

Money paid for an automobile is a payment on account of permanent equipment, and is not deductible. The expense of maintaining an automobile and loss through depreciation are deductible. The cost of maintenance includes money spent for gasoline, oil, tires, insurance, repairs, garage rental (when the garage is not owned by the physician), chauffeurs' wages, etc. Deductible loss through depreciation is the actual diminution in value resulting from obsolescence and use, and from accidental injury against which the physician is not insured. If depreciation is computed on the basis of the average loss during a series of years, the series must extend over the entire estimated life of the car, not merely over the period in which the car is in the possessio...

of the present taxpayer. If the automobile is used for professional and also for personal purposes—as when used by the physician for recreation, (used by his family—only so much of the expens as arises out of the use for professional purpos may be deducted. A physician doing an exclusiv office practice and using his car merely to go to a from his office cannot deduct depreciation or oper ating expenses; he is regarded as using his car fo his personal convenience and not as a means of gaining a livelihood. What has been said with respect to automobiles applies with equal force to horses and vehicles and the equipment incident to their use.

V. MISCELLANEOUS

Laboratory Expenses.—The deductibility of the expenses of establishing and maintaining laboratories is determined by the same principles that determine the deductibility of other corresponding professional expenses. Laboratory rental and the expenses of laboratory equipment and supplies and of laboratory assistants are deductible when under corresponding circumstances they would be deductible if they related to a physician's office.

Losses by Fire, Etc.—Loss of and damage to a physician's equipment by fire, theft or other cause, not compensated by insurance or otherwise recoverable, may be computed as a business expense, and is deductible, provided evidence of such loss or damage can be produced, but only to the extent that such loss or damage has not been made good by repair and the cost claimed as a deduction.

Insurance Premiums.—Premiums paid for insurance against strictly professional losses are deductible. This includes insurance against damages for alleged malpractice and for injuries by a physician's automobile while in use for strictly professional purposes, and against loss from theft of professional equipment, and damage to or loss of professional equipment by fire or otherwise. Under professional equipment is to be included any automobile belonging to the physician and used for strictly professional purposes.

Sale of Spectacles, Etc.—Oculists who furnish spectacles, etc., for patients may charge as income money received from such sales and deduct as an expense the cost of the article sold. Entries on the physician's account books should in such cases show charges for services separate and apart from charges for spectacles, etc.

CANCER DATA FOR THE PUBLIC

During cancer week doctors should attempt to enlighten the public to the importance of early diagnosis and treatment of cancer. The following data will be found convenient in the campaign.

If a man has a cancer he needs help; if he hasn't he need not worry.

When in doubt, consult the family doctor, or some other reputable physician.

Simultaneously with its announcement that cancer is now killing one out of every ten persons over forty years of age, the American Society for the control of cancer announces flatly that "early cancer yields to many remedies; late cancer yields to none."

If recognized and treated properly in its early stages, cancer is frequently curable. It is an affliction requiring expert attention and one that should be protected both from the ignorant manoeuvrings of home treatment, and the money-grabbing tactics of the charlatane.

Cancer's insidious advance lends even the earliest attacks open to question. Painless, obscure, venomous as deadly snakes that infest the jungle, cancer strikes, literally in the black of the night. The way to cure a cancer is to kill it before it is fairly started.

A cancer starts out under the most innocent of disguises. At the outset the victim has no suspicion that the lump, mole, wart, bruise, burn or small ulcer is anything but a trivial matter. Frequently the ailment disappears naturally enough and all is well. But any undue visitation even from such picayunish illness should be investigated. Not however, at a neighborhood caucus, nor at an assemblage of Sairy Gamps, but by reputable men.

Even if the affliction is of the cancer variety instead of the harmless species, that while irritating is not injurious, still in the early stages, even the cancerous sort can be removed by competent surgeons without increasing danger, and with ninety-nine per cent of a chance for a cure.

Cancer is almost the oldest of mankind's diseases. During the middle ages it was regarded as an evidence of divine wrath. As early as 180 B. C. cancer was treated in Egypt by a process practically as extensive as the operation in modern surgery.

While cancer taken in the early or "pre-cancer" stage is invariably curable, any doctor who tells the credible public that he has a "sure cure for cancer" is making fraudulent assertions. Cancer serum is yet to be discovered. So too, is any remedy that will pretend to cure cancer through injection into the veins, or by nubbing upon the skin. And it may be added that one of the greatest of evils is the "home electric cabinet" that pretends to cure cancer by administering electricity or "X-rays" in the hands of the novice.

Cancer is not inherited nor is it any more contagious than a broken arm if proper cleanliness is observed by the patient. Not withstanding this one woman out of every eight, who dies when she is over forty years of age, dies from cancer. The task of the cancer prevention movement is to reach those men and women who are thirty-five years of age or over. The Public Health Service of the United States announces that annually one hundred thousand persons in this country are afflicted with some form of cancer. During the world war, in the months of American participation—from April 1917 until July 1919—about 80,000 soldiers were slain. During that same period however, 180,000

persons in the United States died from cancer—a majority of 100,000 over the war fatalities.

Statisticians assert that in 1922 there were 200,000 more deaths in the United States from cancer, than there were in 1900. Surgery, radium or X-ray, or combinations of these two methods are the three currently accepted methods of precedure against cancer, coupled always with the pre-eminent rule of early diagnosis.

NEW EXPERIMENTS ON REJUVENATION

The Journal has commented on the experiments of Steinach and others in the rejuvenation of animals presumed to follow ligation of the vas. Recently Macht and Teagarden of Johns Hopkins University have performed similar operation on six rats, all more than a year old and showing definite signs of senescence. These were compared with two other animals used as controls. Fourteen additional rats were studied by special methods involving the use of animals operated on and adequate controls. The details of the method leave no doubt as to the scientific character of the experiments. After ligation, a number of the rats showed distinct improvement in general appearance and behavior. They were more active, and several developed a new coat of fur. These changes persisted only for several weeks, however, and the animals gradually relapsed into their usual senile state. Also distinct improvement in muscular co-ordination and muscular efficiency of the animals was noted, but this was temporary, lasting only a few weeks. It is the belief of the observers that all the changes noted seemed to have been the results of the operation; they assert, nevertheless, that this cannot be said positively without numerous additional experiments. This work would seem to confirm the impression now prevailing that the various rejuvenation experiments constitute at best only a temporary stimulus, and that the inevitable result is relapse, if not, perhaps, a shortening of life because of additional burdens thrown on a senescent organization.—Journal A. M. A., Nov. 24, 1923.

WHEN ALL PHYSICIANS ARE EMPLOYED AND DIRECTED BY LAYMEN

Board of Education Assigns Physicians' Work to Technicians—When all physicians are employed and directed by laymen news items like the following (Journal A. M. A., September 22, 1923) will not be interesting:

"The three physicians who for a number of years have been retained by the Board of Education of Belleville regularly to 'inspect' the physical condition of school children, will not be reappointed. Their former duties in this regard have been taken over by a school nurse employed at $160 a month, which means a saving to the board of $900 a year. Abandonment of the school physician system, it is said, was due largely to a controversy that arose last year in which the physicians objected to the school nurse making diagnoses. Those who will not be reappointed are Drs. Adolph E. Hansing, Henry Reis, Jr., and Charles R. Huggins.

FREE CHOICE OF PHYSICIANS

The Long Island Medical Journal remarks that the great argument put forth by cults to influence legislatures is that people are entitled to a free choice of a healing system, and also of its practitioner. An accessory argument is that a few "medical autocrats" are trying to prevent the people from exercising their inalienable right to buy medical treatment wherever they please, just as they buy clothes, or knives, or guns. The answer to this argument is that it is true that any man may ask any cultist to treat him, just as he may ask any auto driver to give him a ride. When a man hires a taxi-cab, he rightly expects the driver to be accomplished and the auto to be substantial. If a taxi man were known to fail to deliver only one or two riders at their destinations, or to have one or two narrow escapes, his reputation would be gone and his license would be revoked. Yet cultists usually fail to carry out their promises to deliver their patrons in "health land"; they often have narrow escapes from accidents, and they frequently produce death by their neglect to heed plain signs of danger. They ignorantly promise cures of conditions of which they know nothing. This is the line of argument which a physician can use to combat the specious arguments of the public's right to freedom of choice in medical matters; but, of course, little results will follow a scientific reply, for the main reliance of the propagandists is mere reiteration.

The reply of physicians to the pleas of the cultists must be two-fold. First, they must meet activity with activity. Physicians are now awake to the need of reaching and influencing their legislators, and medical societies are financing their legislative committees in order that they may employ stenographers and clerks and counsel after the manner of the cultists. The character and reputation of the average physician is so far above that of the best cultist that a little effort by the doctors outweighs much effort by the cultist.—Medical Brief.

ACCIDENTS AND ILL HEALTH IN INDUSTRY

In The Monthly Labor Review, November, 1923, Hookstadt, writing on "Estimated Annual Number and Cost of Accidents in the United States," states that the number of industrial accidents in the United States per annum is almost 2,500,000. There is involved with these accidents the loss of more than 227,000,000 working days. The wage loss incident to industrial accidents amounts, therefore, to more than $1,000,000,000.

An estimation of the number of fatalities sustained in industry by the more than 41,000,000 persons employed, whether as employers and self-employed, or employes,' would amount to more than 30,000 per annum. This means the wiping out of a valuable population, such as would be found in a fairly large city of the country. The results of accidents among employes annually are approximately distributed as follows: Deaths, 21,232; permanent total disability, 1,728; permanent partial disability, 105,629; temporary total disability, 2,324,829.

The Statistical Bulletin, Metropolitan Life Insurance

Company, in commenting on the amount of absenteeism in large business and industrial establishments due to minor illnesses, says: The common "colds" are among the chief sources of lost time. In a group of about 6,700 clerical employes of the Metropolitan Life Insurance Company at the Home Office, during the fifty-two weeks ending July 28, 1923, 2,824 "colds" which involved disability for work were reported to the Medical Division, which cares for the health of the clerical staff. These disabling affections occurred at a rate of 420.7 per 1,000 employes for the year. The average days of disability for this illness per person on the payroll for the year was .9, and the average days per case were 2.2. In all, there were 6,233 days lost in the year from these conditions, which included head colds or coryza, acute bronchitis and tracheitis. Other associated conditions were excluded because of the impossibility of determining in how many cases they were associated with common colds.

It seems that these infections of the upper respiratory tract have two periods of maximum incidence; the first, following the advent of cool weather in the late summer and early fall; the second, occurring during the following January or February, when the coldest weather of the winter prevails. It has been suggested by Dr. Dochez and others that this signifies that there are two types of catarrhal fevers, the one appearing in the early fall, succeeded by the other in mid-winter, accompanied or followed by maximum incidence of severe infections of the respiratory system, including pneumonia, and by a somewhat general mixture and confusion of all types of respiratory infection. This leads to the suggestion of the dependence of one group of respiratory infections upon the other. Are the infections of the upper respiratory system in the early months of cool or cold weather the necessary foundation for the severe pneumonias that appear later on? Others have suggested that we are confronted in this annual progression of respiratory disease only with gradually increasing virulence of many types of organisms.

In the present series, two cases of pneumonia were reported among these employees in December, one in the following March, and seven in April. These insufficient data indicate roughly a time-relationship that is consistent with the hypothesis above stated; but this is obviously subject to a further and more conclusive test from more extensive data. What is needed is an adequate volume of records whereby the cases of upper respiratory disease in the earlier months of cool or cold weather can be related to the incidence of major respiratory infections of later months.

Our data also point out that there are very distinct relationships between these respiratory infections and changes in the weather conditions. We found, for example, that the number of common colds varies with the rise and fall of the weekly mean temperature. A drop in the weekly mean temperature of 10 degrees carries with it an increase of 18 common colds per week in this group of 6700 people. On the other hand such other weather elements as mean relative humidity and total precipitation show only slight influence on the rise and fall of the incidence of common colds.

SAFEGUARDING THE PHYSICIAN'S REPUTATION

"Professional Reputation Hard to Build Up, Is Easily Destroyed—Papers were filed today in a suit for $25,000, brought against a reputable dentist, in which it is alleged that a patient died due to an overdose of cocaine. It requires a long time to build up and cherish a fine professional reputation, but a moment to destroy it." This is not all that the Passaic Daily News has to say about the too loose habit of most newspapers rushing to print with sensational allegations against reputable men. The newspapers and their editors seem to have a strange system of reasoning this matter out. They hold it to be their inherent right to reproduce any matter filed in any court, regardless of the previous record for fine actions of the man assaulted. They hold that if the matter is filed in any court that it is a matter of public interest, therefore they have a right to reproduce it. Of course they have no such right, for more often than not, these very allegations are filed by the most vicious, irresponsible attorneys, men of the lowest grade of character, shielded by the force of the law which permits them to reduce to writing the most impossible charges. In the end these charges, against both physician and druggist, are nearly never sustained. They often contain the extreme of libelous matter, but the moment it is filed as a petition in court it loses its character of libel by some strange twist of the law, is allowed to stand until the day the court declares it to be untrue, all ending in no recourse whatever for the person who has really been aggrieved.—Editorial, Journal Oklahoma State Medical Association, Nov., 1923.

NO SCARCITY OF PHYSICIANS

The A. M. A. Bulletin says: In 1921, as shown by reliable statistics, there was one physician in the United States for every 726 people, as compared with one physician for every 1,041 people in the British Isles in the same year, and, just before the World War, one to every 1,940 people in Germany, one to every 2,020 people in Austria and one to every 2,824 in France.

As to the distribution of physicians in the United States, a tabulation of urban and rural populations, based on returns from the Census Bureau for 1920, shows that, of the total physicians in the United States, 63 per cent. are in cities of 5,000 or greater population, leaving only 37 per cent, in cities or towns of less than 5,000. In other words, in cities of 5,000 or more there is one physician for every 541 people; while in cities of less than 5,000, there is one physician for every 1,020 people. In an investigation for the state of Ohio, conducted by a professor in Ohio State University recently, it was shown that, in cities of less than 2,500 population, there was only one doctor for every 1,600 people. The problem of the country doctor, therefore, is one of distribution and not of total supply.

INSULIN BY MOUTH

The Interrelation Between the Parathyroids and the Pancreas is Emphasized by Startling Experimental Results.

Attention has been called in a previous issue of the *Endoctrine Survey* (Nov., 1923, p. 24) to a possible relationship between the parathyroids and the pancreas. Some additional and quite arresting evidence has been uncovered recently. Winter and Smith (*Jour. Physiol.*, 1923, lviii, p. 108) have reported that when insulin and parathyroid solution are injected simultaneously into rabbits, hypoglycemic convulsions follow more quickly and from a remarkably lessened amount of insulin. *They found that it took only about one-fourth of the usual dose to bring about this typical reaction.*

Incidentally these workers reported in the same article the somewhat disconcerting fact that insulin *is not inert when given by mouth* (despite some rather strong statements to the contrary) provided it is properly protected; but about this more anon in another place.

More recently Forrest, of Newcastle-on-Tyne, reports five clinical cases of diabetes to whom parathyroid extract was given *by mouth* in conjunction with insulin, and the blood sugar curve was compared with that previously obtained following the administration of insulin alone. A short article in the *British Medical Journal* (Nov. 17, 1923, p. 916) embodies the case reports, the laboratory figures of which are reproduced here:

Case 1: Twenty units of A. B. insulin given alone. Blood sugar: 0.310, 0.265, 0.227, 0.162, 0.155, 0.187 and 0.234 per cent.

Twenty units of A. B. insulin given with 0.4 gr. parathyroid by mouth. Blood-sugar: 0.329, 0.257, 0.196, 0.141, 0.118, 0.102, 0.136, and 0.169 per cent.

Case 2: Twenty units of insulin given alone. Blood-sugar: 0.342, 0 292, 0.256, 0.201, 0.216, 0.238, and 0.277 per cent.

Twenty units of insulin given with 1.2 gr. parathyroid. Blood-sugar: 0.329, 0.236, 0.195, 0.149, 0.125, 0.094, and 0.081 per cent.

Case 3: Twenty units insulin given alone. Blood-sugar: 0.362 per cent, missing, 0.214, 0.156, 0.172, and 0.224 per cent.

Twenty units insulin given with 1 gr. parathyroid. Blood-sugar: 0.339, 0.246, 0.182, 0.125, 0.107, 0.091, 0.088, and 0.122 per cent.

Case 4: Fifteen units insulin given alone. Blood-sugar: 0 284, 0.243, 0.216, 0.153, 0.167, and 0.202 per cent.

Fifteen units insulin given with 0.6 gr. parathyroid. Blood-sugar: 0.322, 0.246, 0.191, 0.153, 0.124, 0.104, 0.118, and 0.143 per cent.

Case 5: Fifteen units insulin given alone. Blood-sugar: 0.410, 0.326, 0.229, 0.277, 0.229, 0.242, and 0.283 per cent.

Fifteen units insulin given with 1 gr. parathyroid. Blood-sugar: 0.356, 0.288, 0.231, 0.177, 0.143, 0.119, and 0.106 per cent., and after a four hours interval, during which she was given 20 grams of carbohydrate, 0.259 per cent.

In connection with the above we wish to emphasize two points: (1) That the parathyroid evidently is *not inert* when given by mouth, contrary to past comments by some, and (2) that we are getting into pluriglandular considerations again. Forrest's conclusions are restated: "From the above cases it is evident that parathyroid extract exerts a very definite action on the blood-sugar curve after exhibition of insulin. Whether this will be of any importance as regards treatment is not yet clear. Parathyroid alone does not appear to have any action on the blood-sugar; such changes as have been noticed could easily be explained as the result of starvation. Further investigations should be carried on to ascertain the therapeutic possibilities of the combination."

CHANGES IN SEX MORALITY AMONG WOMEN

Has the wider acceptance of the single standard of morals brought with it a greater degree of chastity among men, or has it meant largely a loosening of the stricter code of sex morality formerly applied to women? Many recent writers incline to the latter view, even those who agree that the slogan "Down with the double standard" was intended, at first, to signify a raising of the male, rather than a revolutionary changing of the female standards.

In *Current History* (November, 1923), Alyse Gregory, writing on "The Changing Morality of Women" calls this looser moral attitude in women "a state of affairs the existence of which can no longer be denied." She traces standards through the Middle Ages and the Victorian Era and, after describing changes brought about through the invention of machinery, she closes her discussion with a few paragraphs on the effect of the war and on the "more tolerant standards" now prevailing.

Of the after-war period down to and including the present, the author says:

However unwilling one may be to acknowledge it, girls began to sow their wild oats. Women of the aristocratic upper class and the poorest women had never followed too rigidly the cast-iron rules of respectability because in neither instance had they anything to lose by digressing. But for the first time in the memory of man, girls from well-bred, respectable middle-class families broke through those invisible chains of custom and asserted their right to a nonchalant, self-sustaining life of their own with a cigarette after every meal and a lover in the evening to wander about with and lend color to life. If the relationship became more intimate than such relationships are supposed to be, there was nothing to be lost that a girl could not well dispense with. Her employer asked no questions as to her life outside the office. She had her own salary at the end of the month and asked no other recompense from her lover but his love and companionship. Into the privacy of her own sung and pleasant rooms not even her mother or her oldest brother could penetrate, for she and she

alone, unless perhaps one other, carried the only key that would fit the lock.

That this picture is a limited one however, she admits, and one of her conclusions is that many, even those who now revel in the new freedom, will find that marrying is worth while.

This is not to imply that over vast stretches of the United States, and certainly in the small towns and villages, young girls and women in bourgeois homes are not living lives of impeccable chastity, but in the great cities in those circles where women from twenty-five to thirty-five can control their own purse strings many of them are apt to drift into casual or steady relationships with certain men friends which may or may not end in matrimony. Undoubtedly in time these men and women will rediscover that monogamy has after all its many advantages, but it is unlikely that the Western World will ever again ask of women that strictness in behavior which it has never demanded of men. On the other hand certain unfair privileges still accorded her under the law will undoubtedly be changed, as will those laws which discriminate against her.—*Journal of Social Hygiene.*

A MAN PREGNANT WITH TWINS

To the "Corriere Italiano" (Rome) we are indebted for the following interesting report:

A few weeks ago there represented himself in the General Hospital of Belgrade (Serbia) a sturdy young peasant by the name of Zivota Zabovich, aged 22 years, complaining of severe abdominal pains.

Examination revealed an enormous abdominal protuberance of unknown origin which called for an operation.

Dr. Hosic, a surgeon of world-wide fame, opened the patient's abdomen and excised a voluminous tumor containing two masculine fetuses, 25 centimeters (10 inches) and 13 centimeters (5 inches) long respectively.

The larger fetus had a well developed head, mouth with two teeth, neck, thorax, left hand with six fingers and long nails. The smaller fetus was quite shapeless, but it had two large eyes as hard as bone.

The rumor of this extraordinary case spread like wild-fire through Belgrade, attracting an immense curious crowd, which was eager to see the "pregnant man" and had to be driven away by the police.

The doctors, dumbfounded by this strange pathological phenomenon, advanced all kinds of theories, the most plausible of which seems to be the following:

The mother had conceived triplets, the strongest embryo developing normally and being born at term, after it had absorbed and incorporated the two other embryos, which Zivota had carried in his abdomen for nearly 22 years without any inconvenience till the onset of pains which brought him to the hospital.

The development and growth of the two fetuses in their brother's body represent an enigma which science is unable to solve.

Zivota stood the operation well and had an uneventful recovery.—*Critic and Guide.*

THE RELATION OF KLEPTOMANIA TO SEXUAL EMOTION

Edward Podalsky (*Med. Rev. of Rev.*) writes that a familiar enigma to the general public nowadays is the rich woman shoplifter who steals, not for the purpose of obtaining an article that she cannot obtain in any other way, for usually she quite easily can get by purchase what she desires, but who steals merely for the love of stealing. She has puzzled judges and lawyers, and the public has been at a loss to account for her anomalous conduct. Certain students, among them Contemps, Duboisson, Letulle and Losegue have made enquiries into this species of strange behavior and have contributed a great deal to the science of sexology on the relationship that exists between this phase of kleptomania and sexuality. In each instance of the investigation the subject has declared that she was governed by some unknown power that caused her to take the object.

Stekel (*Journ. Am. Inst. Crim. Law and Criminology*), the eminent Austrian sexologist, has put forth the claim that the root of these cases of kleptomania is an ungratified sexual instinct. These women have to put up a terrific fight against temptation. Their unsocial conduct is actuated by sexual desires. Thus Healy says: "The interpretation of the causes of this impulse to steal is of great interest. We have shown in our chapter on the mental conflicts how it may be a sort of relief phenomenon for repressed elements in mental life. The repression is found often to center about sex affairs." And again he says: "The correlation of the stealing impulse to the menstrual or premenstrual period in woman leads us to much the same conclusion. Gudden, who seems to have made the most careful studies between the two phenomena, maintains that practically all cases of shoplifters whom he examined were, at the time of their offense, in or near the period of menstruation."

By no means is the relationship between kleptomania and sexual emotion confined to women alone. Men have been subjected to the same phenomenon. Glueck (*Criminal Science Monograph*) reports an interesting case in this connection. A colored boy, age 23, was admitted into the Government Hospital for the Insane from the District Jail, where he had been awaiting trial on two indictments for larceny. He began to steal at an early age and it was during this first act of stealing that the patient experienced a feeling akin to sexual emotion. Later he began to steal objects for which he had absolutely no use, as, for instance, on one occasion he made away with a dozen bricks. He was apprehended and served a prison sentence more than once, but his mania for stealing could not be stayed. His father tried to break him of this habit by supplying him all that he might desire, but this was of no help. He stole for the love of stealing, for the intense emotion and excitement he experienced while stealing.

Even during his stay in a reformatory he would steal anything he could lay his hands on, although the articles were of little or no use to him. After steal-

ing them he made no attempt to hide them, and when he was detected he would acknowledge his theft and say that he was impelled to his crime by some indefinable force. During his stealings he experienced peculiar bodily and mental feelings, and in his own words: "I begin to feel giddy and restless, and feel as if I have to do something. This feeling gradually becomes more marked until I am compelled to enter a house and steal. While stealing I become quite excited, involuntarily begin to pant, perspire and breathe rapidly as if I had run a race; this increases in intensity and then I feel as if I have to go to the closet and empty my bowels. After it is all over I feel exhausted and relieved." His feeling of exhaustion and relief was in a later interview with Glueck described by the patient spontaneously as being such as that one experiences after coitus.

A dream was reported by the patient that Glueck thinks of some importance. He dreamed that two of his brothers came to see him while in prison. They brought with them a young girl whom he recognized as one with whom he used "to keep company." They told him that if he would marry her they would get him out. He refused, and one of his brothers said: "Then you will never get out of this place." They quarreled, the brothers insisting that he marry, and he refusing. In parting one of his brothers said: "Then go to your ruin; we will never do anything for you again." This dream is interpreted by Glueck to read: "Lead a heterosexual life and your troubles will be over; continue as now, you will go to ruin."

Were this sexual aberration more widely understood, judges on the bench would look with more sympathy on malefactors of this kind, and instead of sending them to prison, would send them to a hospital where their conduct might be studied and advice offered.

GONORRHEAL INFECTION OF THE FEMALE GENITALIA

Dr. David R. Ulmer in the Indiana Medical Journal, December , 1923, says:

In looking over the field of infection in the genital tract, it seems impossible to mention any more than a few points, consequently I am limiting this paper to "Gonorrhea of the Female Organs." Just how often it occurs, or what percentage, it is hard to say. Various authors have given different statistics, but it probably runs between sixty and ninety per cent. When it affects the urethra, the disease is slight and attracts but little attention on the part of the patient, since the more serious symptoms of ascending gonorrhea often do not appear for weeks or months after the primary urethritis.

The endocervix holds the second place, while the vagina is rarely infected except in the young. It is only natural and logical that the urethra be first attacked for the fact that the epithelium of the meatus in the female as in the male is a very favorable medium for the gonococcus and is the first point to be exposed during coition, thus the urethra is affected first and the cervix secondly. However, both may be infected at the same time, or the cervix in some cases may be infected first. While I would not attempt to make a diagnosis without the microscope, yet very often the vulva is quite characteristic.

The labia minora and vestibule are reddened, swollen and tender and usually bathed in pus. The meatus is swollen and pouting. Very often from the urethra you can also express pus in which can be found gonorrheal diplocuccus in abundance. At this time we should also look for infection of the glands of Skene, and the Bartholin glands. It is always best, before trying to express any pus from these glands, to wipe the field thoroughly and watch for the little beads of pus from the Bartholin glands near the remnants of the hymen.

In some cases a developing urethritis is much the same in the female as in the male with a burning, itching sensation. However, many more cases may only experience a very slight discomfort such as women may experience from concentrated urine. The swelling in and about the urethra, vagina and cervix creates a feeling of pressure and very often a patient thinks she has some malposition of the uterus. The disease has but little tendency to affect the urinary tract if proper treatment has been carried out. In most cases of acute gonorrhea we find that the disease disappears within three to six weeks but, of course, there is always a tendency to cronicity and when this happens it is usually associated with inflammation of Skene's glands and a long drawn out persistent urethritis. We find these conditions very difficult to cure. Often these cases develop mixed infection and last a long time after the gonococcus has ceased to appear.

The treatment of urethritis and vulvovagitis is very much the same as treatment in the male. Restricted diet, rest in bed, alkalis, forced fluids and sitz-baths. It is a good thing for a patient to have a hot solution of Potassium Permanganate to sit in for fifteen minutes at a sitting several times a day, at the same time dividing the labia majoria. When acute symptoms subside then silver nitrate or some of its preparations may be used through the endoscope in the urethra, or you can use an ordinary urethral syringe, the same as used by the male. If the bladder is involved and cystitis has developed you should irrigate the bladder. I have made it a practice to leave one ounce of a 10% Argyrol solution in the bladder. Treatment of the bladder given every day if possible. If there are erosions or patches of congestion, I use a 3% cocain to the surface of the urethra and then a 2% silver nitrate solution to affected parts. The pudential hair should be kept scrupulously clean with soap and warm water and an alkaline solution. For treatment of the cervical canal, place a speculum, sponge the vagina dry and clean the cervical canal. I use a small cylindrical brush made for cleansing test tubes for the cervical mucous plug, then take a pledget of sterile cotton dipped in 2% silver nitrate and swab the entire vagina, also using a small swab of 4% solution in the cervical canal, then placing a tempon thoroughly satu-

rated in 2% silver nitrate solution. If you are unable to see the patient every day there are many suppositories of silver nitrate on the market you can allow the patient to use. First use a hot normal salt solution followed by a sterile douche and then the suppository.

I might say in passing, we very rarely have a stricture in the female urethra, and when we do have one it is treated very much the same as in the male. The Bartholin glands may become infected primarily, but this is rare and they are very rarely infected by another organism than the gonococcus, consequently when you find a Bartholin abscess you can nearly always class it on the gonococcus side. The infection usually takes place in ducts and then travels to the glands themselves. These are racemose glands and are very good soil for gonorrhea. These, too, often become infected with other pyogenic organisms. In time these organisms kill out the gonococcus and will extend to the middle part of the gland and an abscess is the result. We most often find only one gland infected, but occasionally both.

Correspondence

A PRACTICAL SUGGESTION FOR DEALING WITH MEDICAL CULTS

Chicago, January 30, 1924.

To the Editor:

During the month of November we ran across two timely articles upon the subject of Medicine and the Cults.

In the *Boston Medical and Surgical Journal,* Oct. 25, 1923, there is a report of the committee of the Massachusetts Medical Society who investigated, at first hand, some of the cults. Attempts were made, for instance, to study cases in parallel by both orthopedic and "osteopathic" methods. About one hundred and eight cases were studied in this manner. "One or more so-called osteopathic lesions were detected at various points along the spine in each case," says the report, "but there was no specificity of location of the lesion for a given disease." The osteopaths, working independently, agreed on the location of the lesion in only 12.5 per cent of cases. The committee concludes, therefore, that the study seems to show not only that the osteopathic lesion is a difficult one to detect even by experienced osteopaths," but also "feels that considerable doubt must be thrown upon the theory of osteopathy."

How can we teach, in a practical manner, the fallacies of the cults to the public? Dr. E. H. Ochsner, in the ILLINOIS MEDICAL JOURNAL, November, 1923, offers a workable solution. He suggests the distribution, among our patients, of a leaflet setting forth first, facts about all the cults, and second, a few of the accomplishments of the medical profession. This leaflet has been prepared by the order of the Council of the Illinois State Medical Society and is now available and can be secured by writing to Dr. Wm. D. Chapman, Silvis, Illinois, Secretary, Illinois State Medical Society, or from the secretaries of the Component County and Branch Medical Societies. Dr. Ochsner recommends that when a patient comes to the office making inquiry about any of the cults, the patient be handed one of these reprints and asked to carefully read it. In this way much valuable time and unnecessary controversy is avoided and the inquiring patient will actually get reliable information as to what the medical profession stands for and what it has accomplished in the prevention and elimination of disease and how inadequately prepared to treat human ills all of the cultists are.

O. E. NADEAU.

DIDN'T LIKE TO DISTURB THEM

James MacNee tells the following story to his close friends as one of a collection gathered when he visited his old home in Scotland:

There were four old Scotsmen, the remnant of a club formed fifty years ago, and they were seated round the table in the club room. It was five a. m., and Donald looked across the table at Dougal and said in a thick, sleepy voice:

"Dougal, d'ye notice what an awfu' peculiar expression there is on Jock's face?"

"Aye," says Dougal, "I notice that. He's deed—he's been deed these four hours."

"Whet? Deed? Why did ye no tell me?"

"Ah, no-no-no," said Dougal, "A'm no that kind of man to disturb a convivial evening."

THE CHANGING VIEWS IN MEDICINE

The Chicago Med. Record (September, 1923), in quoting Barry, calls attention to the astonishing change in the relation between doctors and the world that has taken place during the past half century. Once they were concerned almost wholly with the body. They placed their chief reliance on drugs. The mind and the spirit they left to the educators and to the clergy. With the decline in the appeal of religion, so notably illustrated, for example, by the popular indifference today to the reading of the Bible, the doctors began to take on somehting of the authority so long held by the church and by the schools. At the same time they were beginning to appreciate as they had never done before the way the body and the mind work together and influence each other.

Original Articles

THE SYMPTOMS OF NEPHRITIS AND THEIR BEARING ON TREATMENT.*

O. H. PERRY PEPPER, M. D.
PHILADELPHIA.

It is wise to take stock occasionally of our treatment of a disease, to question ourselves as to the reasons for each part; in an unprejudiced manner to judge its efficacy; and to attempt to make plans for its improvement. When the disease has a known etiology, and we are in possession of a more or less specific therapeutic agent which gives us satisfactory results we can feel well satisfied. But when we are dealing with a diseased condition the cause or causes of which are still in doubt and the treatment of which, far from being specific and satisfactory, is but symptomatic and unsuccessful, we should not feel satisfied until we have reviewed the present situation to the best of our ability. This it seems to me is the status of our treatment of nephritis to-day.

Certainly we have no specific curative agent for nephritis, and our treatment is largely symptomatic. It is of great importance, therefore, that we should study its symptoms and try to learn their origin if we are to employ them as a basis for treatment. Before going further, let me explain that I am using the term "nephritis" to mean an acute or chronic disease, progressing eventually to an alteration in the chemical composition of the blood, to a disturbance of the elimination of waste products from the body and to conspicuous pathological changes in the kidneys. The disease which we call nephritis exists for a longer or shorter time before any disturbance of elimination appears. It is all important that we differentiate in our minds this stage of nephritis from the stage of disturbed elimination. We must still be satisfied to interpret this failure of elimination as renal insufficiency, although it may have a much deeper significance.

It may sound elementary to suggest that we should review the symptoms of nephritis; they are given in every text-book and we are each of us familiar with them, and yet I believe that an analysis of these well known symptoms from this special point of view will yield us something of value in clarifying our ideas of the treatment of nephritis.

Now what are usually accepted as symptoms of nephritis in general without limiting ourselves to any one form of the disease? Certain prominent ones come to mind at once—edema, headache, convulsions, for example, and there are many others. Their variety is well exemplified by the following list which represents the chief symptom or general complaint of each of two hundred consecutive cases of nephritis admitted to the Hospital of the University of Pennsylvania. Edema was the chief complaint in thirty-four cases, dyspnea in twenty-eight, headache in twenty-four, weakness in twenty-two, disturbed vision in fourteen, convulsions in eleven, pain in the back in ten, and vomiting in nine. Albuminaria and thoracic pain were given as the chief complaint by eight patients each, abdominal pain by six, "out of sorts" by three, indigestion by three. Palpitation, drowsiness, epistaxis, cough and vague pains were each the foremost complaint in two cases, and nausea, dizziness, dysuria, aphasia, "mental change," hematuria, insomnia, enuresis, melena, and spasm of jaws each in one case.

This list is quite inclusive and the only important symptoms omitted are diarrhea, tinnitus and pallor. With these added the list contains practically all the symptoms usually described as occurring in either acute or chronic nephritis.

Thus far I have used the phrase "symptoms of nephritis," but now I wish to discuss the question as to whether, strictly speaking, these so-called symptoms of nephritis are truly so. Are many of them actually not symptoms of renal insufficiency rather than of nephritis itself? This may seem a quibble, but to me it seems an important distinction. To make my thought clear let me draw an analogy between nephritis and renal insufficiency on the one hand, and endocarditis and cardiac insufficiency on the other.

For years we have been accustomed to differentiate clearly between symptoms of endocarditis itself and symptoms and signs of cardiac weakness or decompensation. During the period of the actual endocarditis the symptoms vary with the type of process present, rheumatic, streptococcal or syphilitic. The symptoms may be marked or inconspicuous; the symptoms of the primary infection may dominate the picture and our at-

*Read before the Inter-State assembly of the Tri-State District Medical Association, Des Moines, Iowa, October 29—November 1, 1923.

tention may be drawn to the heart only by tachycardia or pain, or by the discovery on examination of newly developed heart murmurs. At some later period, perhaps soon, perhaps not for years, the symptoms of cardiac decompensation, dyspnea, palpitation, edema et cetera, appear. These are not strictly symptoms of the endocarditis but of a weakening of the heart muscle under the handicap of the structurally damaged valves. The important point is that the treatment of the two stages is entirely different and this is universally recognized.

Now when we turn back to a consideration of nephritis and review the list of symptoms and signs which may occur in the various forms of nephritis we come to the somewhat startling conclusion that very few of them are symptoms of nephritis, strictly speaking, and that most of them are symptoms of functional insufficiency of the kidneys analogous to the symptoms—dyspnea, palpitation, edema, et cetera, of cardiac insufficiency.

Let us examine a few of these so-called symptoms of nephritis and see whether they should be classed as symptoms of nephritis itself or as results of the impaired action of the kidney.

Edema, which occurs so constantly in acute nephritis and in the parenchymatous or tubular types of chronic nephritis, is most probably the result of the failure of the kidney to adequately perform its function. Dropsy is an evidence of an impaired renal function rather than a symptom of nephritis itself.

For our purpose we may omit discussion as to whether the retention of water is primary, or is secondary to a retention of salt or to some disturbed state of the colloids of the body.

Dyspnea, which came second in our list of symptoms, may have a variety of causes and in a given case may be due to any one or several of these. It may be due to the action of some toxic substance upon the central nervous system or to some result of a failing circulation or perhaps to acidosis. These all find their origin in impaired kidney function. A variety of phenomena result from the accumulation of toxic matters in the body with a culmination in uremia and it does not interest us at the moment whether these toxic substances are normal to the body's metabolism and are retained in toxic amounts owing to the failure of the nephritic kidney to eliminate them or whether these toxic substances are only produced in the body secondarily to abnormal processes in the kidney or liver, brought about either by the noxus which primarily caused the kidney disease, or by the results of the disease directly or indirectly.

The circulatory weakness which may explain wholly or in part the dyspnea which we are discussing, as well as many other of the phenomena observed in late nephritis, usually has its origin in the increased blood pressure and in the associated changes in the arteries and heart muscle. Kidneys, arteries and heart are so intimately interrelated that it is impossible to think of one without the other two. But dyspnea of circulatory origin can scarcely be considered strictly a direct symptom of nephritis.

Dyspnea may be due to acidosis which in nephritis is chiefly due to the failure of the kidney to continue its function of excreting the acid substances, for example, the acid phosphates, normally produced in the body. Here again the cause of the dyspnea resides in a failure of the kidneys to function properly.

Third in our list of symptoms comes *headache,* which occurred as a chief complaint in twenty-four of the two hundred cases. Here again possible toxic and circulatory factors may play a part, or the true explanation may be found in an albuminuric retinitis which in turn has a toxic origin.

As we proceed down the list we next find *weakness, disturbed vision* and *convulsions.* The same reasoning applies to these as to the symptoms already discussed.

Pain in the back comes next and presents a somewhat different problem. Sir James McKenzie,[1] in speaking of the symptoms of affections of the kidney, has written: "As in the affections of other glandular organs, there are practically no sensory symptoms evoked by disease of the kidney structure. Backache is sometimes put down as present in inflammation of the kidney, but, considering how frequent backache is, some doubt may be entertained whether the kidney is the cause. For a great many years I have carefully inquired into the symptoms in all sorts of cases of albuminaria, acute and chronic, and I could find no evidence of pain of any form referable to the kidney trouble. All the symptoms of kidney disease (apart from alteration in the size of the organ) are found in the chemical examination of the urine, in the

frequent micturition, or as the result of its impaired secretion on other organs and systems (vomiting, headache, convulsions, changes in the cardio-vascular system, dropsy)."

Mackenzie in this latter sentence expresses, although in a somewhat different form, the same thought which I am presenting.

Pain in the back, when it does occur in nephritis, may properly be considered a true symptom of the disease, but it should again be emphasized that pain is not of common occurrence and when it does occur it is less severe than is the common belief. Pain is of more frequent occurrence in acute nephritis than in the other forms and is probably due to the swelling of the organ from local hyperemia and edema. It may be stated quite positively that true renal colic never occurs from nephritis alone, nor does marked local tenderness.

The only other true symptoms of the nephritis itself are to be found in disturbances of urination and in alterations of the urine.

The former group are seldom seen, but frequency of urination is occasionally complained of in nephritis without its being dependent upon an increased amount of urine. Such frequency may even occur in acute nephritis with a diminished amount of urine, probably due to an irritating quality of the concentrated and abnormal urine.

Alterations in the urine, the occurrence of albumin, casts, red and white blood cells are in some measure present in all nephritis. These are true evidences of the nephritis, but these also may be considered evidences of disturbed renal function. Fixation of the specific gravity of the urine at a low level is a characteristic of chronic nephritis of the glomerular type with hypertension. It is a direct evidence of the altered function of the kidneys in this condition; an altered function which leads to the failure of the kidneys to properly rid the body of a variety of metabolic end products.

This list of the true symptoms of nephritis is brief yet complete; pain, alterations in the urine and disturbances of micturition. All the other symptoms which have been mentioned and many more can be clearly related to secondary results of disturbed kidney function.

Uremia with its variety of symptoms is wholly a toxic phenomenon, and an equally long list of symptoms can be explained on the basis of secondary circulatory disturbances.

If this is true then we may with propriety state that almost all the so-called symptoms of nephritis are secondary results of the renal insufficiency induced by the nephritis and as such are comparable to the symptoms of cardiac failure following perhaps on a primary valve lesion.

As Moschcowitz[2] has written: "In the majority of instances what the clinician means is not nephritis but renal insufficiency."

Now when we turn to an analysis of our treatment of nephritis we find that two things at once appear. First, that the treatment is almost wholly symptomatic and secondly, that the symptoms which are the basis of the treatment are symptoms of renal insufficiency and not of nephritis.

What are the chief measures employed? Nephritis with dropsy is treated by reduction in the water and salt intake, by sweating and catharsis. Are not these but attempts to relieve the impaired renal function? In nephritis with nitrogen retention and a tendency to uremia, one restricts the intake of nitrogen-containing protein food and one attempts to increase elimination by the free administration of liquids and by sweating and catharsis. Again we are but lessening the load on a weakened function of the kidney. Different types of nephritis impair different functions of the kidney and our efforts to assist these impaired functions constitute what we are pleased to consider our treatment of this or that type of nephritis. We actually are not treating the nephritic process but are merely lessening the strain on whatever function of the kidney is sufficiently impaired for us to recognize the results of its impairment. This can all be included under the term "functional rest," and is analogous to the limitation of effort which constitutes rest for the weakened heart.

Do not think for a moment that I am decrying the value or need of such treatment, but it is important that we realize what we are accomplishing in such treatment, that it is simply rest —nothing specific, nothing directed at the nephritic process—nothing but the meeting of symptomatic indications. I think we often forget this and feel that by these various measures we are actually treating the nephritis. Of course, there may be terminal cases in which such treatment is all which can be done, but in all others it is all important that we should not ever be satisfied to do nothing but carry out such efforts to give functional relief. We must always

have before us a further goal. Prevention of the onset of the nephritic process in some, and the prevention of its advancement in others.

The prevention of rheumatic endocarditis depends upon the proper treatment of tonsillar infections, of acute rheumatic fever, of growing pains, of chorea. Acute septic endocarditis may prove to be occasionally amenable to mercurochrome intravenously as introduced by Piper, subacute streptococcic endocarditis may occasionally recover under arsenic administration as reported by Capps. Syphilitic valvulitis can be prevented by appropriate antiluetic treatment given in the early stages. We do not wait for the development of edema, cyanosis and dyspnea to undertake these measures; they are treatments of endocarditis, not of the resulting cardiac insufficiency. Rest and digitalis are often employed in these cases, but are not thought of as being adequate treatment. And yet in nephritis with renal insufficiency we seem often to be satisfied to administer functional rest to the kidneys. What more should we do?

First, from the point of view of diagnosis we should try to diagnose nephritis, incipient, threatened or early, in the stage before the development of the signs and symptoms of kidney insufficiency. This may be impossible in some instances, but will often be possible if we try. It will be possible only if the symptoms of nephritis, and not those of renal insufficiency, are searched for and properly evaluated, just as the heart murmur is searched for and evaluated. There is a functional murmur and an organic murmur; there is a mild transitory aluminuria and a more persistent albuminuria associated with cases. The former type we may perhaps safely disregard, the latter must be considered of utmost importance.

We know when to search for heart murmurs. When should our knowledge of etiology of nephritis lead us to examine particularly for evidences of early nephritis, and to give weight to the finding of changes in the urine? At two periods especially; during convalescence from acute infections and in the early stages of the arteriosclerotic changes which physiologically or pathologically begin to make their appearance in middle age.

Among acute infections scarlet fever has received the emphasis, but apparently much less severe infections are far more insidious and dangerous. Scarlet fever produces as a rule a nephritis of sufficient grade to be promptly associated with kidney insufficiency and so to be recognized. Acute tonsillitis, gastroenteritis, furunculosis, et cetera, commence a nephritis which in the early stages is seldom associated with any symptoms of renal failure and so often escapes notice. And yet the importance of these apparently minor infections as the starting points of nephritis is being more and more appreciated.

No case of acute tonsillitis of more than the mildest degree should fail to have a urine examination before being allowed to resume normal activities. Since being impressed with this fact I have examined the urines of a series of patients with simple tonsillitis and have been amazed at the marked evidences of renal irritation which are present in the urine. In such patients the urine should be examined repeatedly and they should not be considered well until the urine has returned to normal. The same line of reasoning applies to the patient with syphilis, and to the apparently healthy individual who is entering middle life.

Nephritis must be diagnosed before renal insufficiency develops if anything is to be hoped for from treatment. At this early stage one can hope for little help from any of the tests of renal function which we know today. The routine urine examination is probably of greater value. Only by early recognition can we hope to accomplish anything; the process must be halted before the renal damage is too great. If recognized early we may also recognize the cause; a causative acute infection can then be treated with greater respect, the convalescence prolonged, the recurrence avoided if possible. At the same time by control of diet and of fluid intake, by care of bowels, and by restriction of activity, the kidney is given as much functional rest as possible.

In an acute nephritis after the cause has ceased to be active, prolonged rest in bed with some limitation of diet often leads to an apparently complete cure. But one must be sure the cause has ceased to be active. In a case of acute nephritis following otitis media, I have seen the nephritic process continue until a symptomless infection of the mastoid air cells was eradicated. Judgment as to cure will have to depend upon the urine examination.

If the nephritis be of the type which appears to be related to arteriosclerosis and which ap-

pears insidiously in middle age then our efforts are directed at the removal of foci of infection, such as those about the teeth, tonsils and sinuses, at the improvement of dietetic habits, at the avoidance of constipation and intestinal indigestion, at readjustment of the activities of life which tend to impair general nutrition and vitality, with injury especially of the arteries and kidneys.

There is nothing new in all of this; it is what we do to-day, but we do it too late and often half-heartedly. And the reason, as I see it, is that we fail to diagnose nephritis until renal insufficiency forces itself on our attention and that then we treat the renal insufficiency and think that we are treating the nephritic process.

Prevention should be our primary ambition. Next in importance comes early diagnosis with appreciation of the cause. By appropriate measures in the early stage we may prevent the recurring insults which ultimately lead to chronic nephritis. By early recognition of the more chronic cases we may be able to avert the failure of renal function with its tragic outcome. Perhaps the future will give us some direct specific treatment of nephritis; this is improbable. Only by earlier and more intensive treatment is there hope of lessening the frequency and fatality of kidney disease.

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POST GRADUATE TEACHING*

D. D. Barr, M. D.

TAYLORVILLE, ILL.

In presenting what I have to say I may remark that I am not trying to set forth a treatise on post graduate teaching but rather to point out some of the shortcomings, as it appears to me, of the present manner of teaching. I might also say that my remarks are rather in extension of those made a year ago when the time was so short that I could not present them clearly.

In various ways I learn of many physicians who would like to take post graduate work in one branch or another and they naturally look to the nearest large cities in the state or near as can be, thereto, that offer the work most convenient to them. This means either St. Louis or Chicago as these are the only cities either in the state, or near, and Chicago being a part of our own state we naturally take some pride in its being a center of medical teaching.

So much for the locations. What about the students? They are men who, in most cases, are leaving their business and hoping to get the most they can for their time and money and naturally want it in the very shortest time that it can be done successfully. It is not a matter merely of dollars but the question of time is an important consideration. These men mostly have to be away from their families and their business and while losing the money at one end they are spending it at the other end of the line but the greatest cost of all is the time spent in the work and if this can be shortened to half or two-thirds of the usual time it means a lot to the busy physician.

Right here comes my first criticism. In all the inquiries I have made in the matter, I have been told that the student must spend at least six months in preparatory work before he could take up any of the operative or actual treatment of the cases. This preliminary work consists of the study of anatomy, physiology, pathology and possibly some other work, including dissection of the special parts. I think the dissection is all right since in the graduate courses there is not so much attention given to the more minute anatomy that is required for special work of the eye, ear, nose and throat and these parts are harder to get at than the grosser anatomy, and the graduate schools are not trying to make specialists out of all the students. But to spend six months in the special studies is too long for the average student and is a waste of time.

No one who is worthy of the name "student" takes up special work who has not spent many weary hours at home in this his chosen field of work and has the theory pretty well worked out and is ready for the application of all this preliminary work.

With a careful course of dissection the student should be put to the practical work where the teacher can see where the student is lacking in either work or knowledge and thus be ready to assist him in what he does not already know. I once heard a noted teacher of teachers express it thus: Instead of teaching "about the subject" teach the subject itself. One of the best ex-

*Read at the meeting of the Illinois State Medical Society at Decatur, May 16, 1923, before the Section of Eye, Ear, Nose and Throat.

amples of this method of teaching that I have seen was in a technical school in New York City where the students were put at once to the work itself and given an intensive course of work for six months in the different mechanical lines and at the end of this time the students were better fitted for the work and could do it better than those who had spent twice the time in the old fashioned way. In this school they did not spend the time in teaching what the student already knew but centered on the things he did not know and they got the results.

In this special work the hardest thing of all is to learn what to do and what *not* to do. Perhaps the latter is the more important. In this intensive method the student learns much more from his own mistakes than he does from watching some skilled operator doing the operation for him.

I recall that last year when I was speaking of this feature of the subject I was criticised and the suggestion offered that a course of this kind would be topheavy and not successful. My observation is that the students who have spent so long a time in the prolonged courses to the neglect of the practical parts are the ones who have the topheavy course, for they fail in the diagnosis and judgment of what to do and—more important—what not to do in a great many of the cases that come to them. They are tempted to try operations which they can not do successfully and, many times, treatment would have been better for the patient and he would have suffered less.

We read at times the outpourings of some oracle who says that a surgeon should never be allowed to do an operation until he has learned to do it perfectly. Well, the world would be in a great fix if this theory prevailed and I think it would be a safe guess that the oracle himself never practiced the doctrine he preached.

However we may differ on this matter it is surely true that there is a crying need for shorter and more intensive courses and these given by men who are skilled in the art of teaching. This may sound like I am trying to make a personal stab at some particular teacher or teachers. It is not my intention at all to criticise individuals. On the contrary I may say that the lectures I have heard by the men who attend this section have been of the highest order and I have enjoyed them immensely but I do think that the system of trying to make the student perfect in the preliminaries and letting him pass by with so little of the art of diagnosis and neglect of operative work and treatment is not the successful way of teaching and it should be corrected.

It seems to me that our large cities here in America should take more interest in this post graduate work and make the American post graduate work as good as any in the world. We beat the world in manufacturing, transportation and many other things and why not in medical matters? Further, I have wondered why cities like St. Louis, Indianapolis, Cincinnati and others do not take up this work, I have read that in Europe there are several cities of the size of those last mentioned where the post graduate work is splendid. Would it not be well to encourage such work in many cities here in this country?

THE DIAGNOSIS AND TREATMENT OF BRAIN INJURIES IN THE ADULT*

HARRY JACKSON, S. B., M. D., F. A. C. S.,

Associate in Surgery Northwestern University Medical School, Attending Surgeon Cook County Hospital, Adjunct Attending Surgeon Michael Reese Hospital.

CHICAGO

In this paper, I shall limit myself to a consideration of the diagnosis and treatment of *subdural* injuries to the brain, often associated with fissured fracture of the skull, but not necessarily so. They constitute about 90 per cent of all the cases of injury to the head in civil life. I will exclude depressed fracture of the skull as well as extradural hemorrhage resulting from a ruptured middle meningeal artery or dural sinus, as these must be considered as separate and distinct entities.

I wish to stress, first of all, the fact that the *diagnosis* of sub-dural injury must be made *within 6 to 12 hours* after the accident in order to obtain good results in whatever form of treatment is to be instituted. Besides the question of preventing the death of the individual, the importance of an early diagnosis will be evident when it is called to mind that pressure anemia of the cerebral cortex of over 12 hours duration results in death of the delicate and highly specialized cortical cells. Once destroyed, they are never reproduced but are replaced by glia tissue.

*Read before Chicago Medical Society, Nov. 14, 1923.

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The destruction of a considerable number of these cortical cells produce mental and physical changes depending upon their location in the brain, and include dizziness, headache, irritability, changed disposition, epilepsy, paralyses, etc.

Following a severe contusion of the brain, the consequent swelling and hemorrhage of the brain cannot be accommodated within the limited area of the closed cranium. The brain is pushed against its rigid dural envelope compressing the vessels in the pia arachnoid and cortex. Intra-cranial tension is increased and remains above normal until the hemorrhage ceases and the edema of the brain subsides. During this period of three to five days, it is most important to reduce the increased pressure to save life and prevent sequelae.

The question then presents itself: How can this increased intra-cranial tension be discovered within 12 hours after the accident? The answer is very simple and easily understood. There is at the base of the brain and over the surfaces of the cerebrum and cerebellum and cord a water system fed by secretions from the ventricles. This is the cerebro-spinal fluid system, the circulation of which is necessary to life. All parts of this system are directly connected with each other and in injuries, pressure tests in any one part will be an accurate index of the pressure in any other part of the system. A hollow needle, inserted in the 4th lumbar interspace and connected with a mercury manometer will show the pressure on the cerebrum just as accurately as if the needle were inserted into the ventricles, the basal cisterns or the subarachnoid spaces. If there is hemorrhage into the subarachnoid space over any part of the brain, part of the blood will be diffused throughout the water system and will appear in the lumbar region if sufficient fluid is allowed to escape from the needle. In this simple expedient, then, of lumbar puncture we have an accurate index of intra-cranial pressure and a sure sign of hemorrhage. Lumbar puncture can safely be made as soon as symptoms of shock have subsided—usually within 2 to 6 hours after the accident. This is a *direct* examination of conditions with the closed cerebro-spinal system arrived at by puncture through one of the interstices between the spinal vertebrae and does not necessitate making an artificial or permanent opening into the cranium. In contra-distinction to this procedure for making a diagnosis of intra-cranial pressure or hemorrhage, it is interesting to review briefly other procedures that have been called into use up to and including the present time.

Ever since Kocher's famous explanation of the four stages of intra-cranial pressure, the pulse, temperature, respiration and blood pressure have been taken as indices of intra-cranial pressure, and volumes have been written on the value of one or more of these symptoms as indices of trauma within the skull and they are used as reliable indications for surgical and medical treatment. This is accepted by many notwithstanding the fact that changes in pulse, temperature, respiration and blood pressure are all dependent on pressure on the medulla, which lies below the level of the tentorium. None of these symptoms reflects the pressure on the cerebrum, which may be present for many hours before the medulla is affected and is evidenced only by headache or unconsciousness. Following this line of reasoning, most text-books state that a pulse of 50 or less and a blood pressure of 170 or over, are indications for operative treatment. Rawling, in his admirable lectures on "Cranial Injuries," lays stress on *temperature* as an indication for the severity of the brain lesion and considers it of far more diagnostic importance than the pulse, respiration, or blood pressure. Von Bergman depended upon the *increase in Blood Pressure* as an indication for operative interference. Other authors consider the examination of the *eye grounds* as of supreme importance. Others rely upon the state of the pupils and upon the reflexes to determine the nature and extent of the injury within the skull. Still others await an x-ray examination and, if a fracture is found, consider this an indication for operation.

What objections are there to these dicta? The answer, I believe, can best be made by an allusion to a corollary that was exploded some 15 years ago in connection with the diagnosis of peritonitis following a ruptured appendix or ulcer. Twenty years ago we were taught that the symptoms of peritonitis were a wiry pulse and a Hippocratic facies. These secondary symptoms did appear as the patient was about to die because the early local findings of tenderness and rigidity of the abdomen were ignored in those days. It was no wonder that many of our patients died of peritonitis if we waited for these late symptoms of general toxemia before

operative intervention. Are we doing any different today if we wait for a slow pulse, a stertorous respiration, an increased blood pressure and temperature and an edema of the eye grounds, all secondary and distant symptoms of pressure on the medulla oblongata following pressure on the cerebrum by many hours? Is it justifiable to allow a patient, brought to us in an unconscious condition and with a history of injury to the head sustained, for example, in an automobile accident, to lie in bed, while pressure on his cerebrum is mounting, with orders for an ice cap to the head and the administration of a cathartic and perhaps a hypodermic of morphin to help mask his symptoms and then to expectantly await in the next 24 or 48 hours the late symptoms of pressure on his vital centers in the medulla? We might as well still look for the wiry pulse and Hippocratic facies in peritonitis and yet this treatment is advised today in many of our large hospitals. Is it any wonder that an operation done at this time has proven unsatisfactory? The poor results of late operation have forced some physicians to adopt the treatment of watchful expectancy. There are a few surgeons who have solved the problem by operation upon *every* case of head injury as early as possible with the result that many are operated upon unnecessarily.

The answer to this question in my opinion, is to determine the nature and extent of the cerebral injury by estimating the pressure upon the brain within the first 6 hours and if there is present a pressure of over 7 to 9 mm. of mercury as determined by the mercurial manometer and the spinal fluid is bloody, no time is to be lost in reducing the pressure. And it is important to note that if this increased pressure on the cerebrum is reduced and kept low for 3 to 5 days until the edema and hemorrhage of the cerebrum subside, the symptoms of pressure on the medulla never appear. The pulse does not become slowed, the respirations do not become stertorous, the blood pressure does not rise and the edema of the eye grounds does not appear. In short, the sequence of events, so beautifully portrayed by Kocher in his historic four stages of intra-cranial pressure never takes place. The only cases that show any of these symptoms are those hopeless ones in which the injury primarily affects the medulla and those cases usually die within 6 to 12 hours. The temperature usually rises in contusion of the brain but in itself cannot be depended on in the first 6 to 12 hours.

The treatment, therefore, must be directed against the increased pressure on the cerebrum. It must *be begun before the medulla is endangered* to prevent death or the late effects of gliosis of the cortex should the patient survive the medullary compression. Sub-temporal decompression done early in selected cases may relieve pressure locally for a time. But if much of the brain is involved at points distant from each other in the anterior and posterior fossae, as in contre-coup injuries, a decompression in the middle fossa will avail little. Especially if the brain bulges into the subtemporal opening and effectually plugs it. Moreover, the resultant defect on the skull is a permanent one with all its attendant dangers.

I have relied on lumbar drainage during the past five years to relieve pressure on the cerebrum and medulla and to withdraw blood and am more and more favorably convinced of its good effect as the years pass. As soon as the patient has recovered by appropriate treatment from the serious effects of shock—lumbar puncture is done with the patient lying on his side and held by an assistant. Pressure reading is first taken and if it is increased above the normal limits, 10 to 30 cc. of fluid is removed in 3 test tubes to lower pressure and to determine blood content. This is repeated in 6, 12 or 24 hour intervals depending on the rapidity with which pressure recurs. Usually the intervals can be lengthened after 24 or 48 hours and the pressure returns to normal in three to seven days. Consciousness returns and headache is lessened after subsequent drainages. I and my assistants have performed about 5,000 lumbar punctures in the last five years—as many as 10 to 15 in those cases of more severe type—and I have not yet seen one in which sudden death occurred as a result of herniation of the medulla into the foramen magnum. That this does occur, in cases of *brain tumor,* there is no doubt, but it should not be used as an argument against drainage in cases of *acute cranial injury.* And yet so ingrained is this idea in the minds of internists and surgeons that one hears it mentioned repeatedly. (It is curious to me that many of us do not hesitate to advise an operation that leaves a permanent defect in the skull with all its immediate and remote dangers when the same

men will balk at so simple a procedure as lumbar puncture and drainage.)

We have, at the Cook County Hospital, from 400 to 500 cases of injury to the head each year —the great majority being automobile accident cases. Each year the number increases. Where the mortality ranged between 50 to 60 per cent under the old treatment of late operation or watchful expectancy—with early diagnosis and treatment by lumbar drainage this has been reduced about one-half to 25 or 30 per cent. Moreover, the late effects—commonly looked upon as traumatic neurosis—with dizziness, headaches, change in disposition, inability to work or to withstand extremes of temperature or the effects of alcohol, epilepsy, paralyses, etc, have been greatly reduced.

SOME HIGH LIGHTS ON GOITER*

J. R. YUNG, M.D.,
TERRE HAUTE, INDIANA

A comprehensive discussion of goiter would not alone be time consuming, but bore you with a repetition of facts commonly known. In high lights on goiter it is our intention to lay emphasis upon outstanding features of practical value rather than unproven theories.

Through the work of Marine and Kendall, it is usually accepted that the chief function of the thyroid is to split up iodine compounds which have gained access to the system and to convert them into a specific thyroid product—thyro-iodine or thyroxin. Dr. C. H. Mayo predicts that it probably will be proven that the iodine for the gland is derived from the indol of the colon. The iodine is stored in the thyroid and discharged to meet the body needs. In this connection it is interesting to note that in exophthalmic goiter there is an absence of iodine, presumably due to the great overactivity of the gland in sending out its specific or altered product. As it is known that iodine increases the function and electric conductivity of the brain, also that the thyroid is the source of the iodine, Crile concludes that the function of the thyroid is to act as a controller of the electric conductivity of the brain—its sensitivity and activity—and therefore a controller of basal metabolism. His stand seems well taken when we bear in mind cases of myxedema with their dull brains, heavy bodies and sluggish movements on the one hand and on the other, exophthalmic cases of excessively sensitive brains, loss of weight and exceedingly active bodies.

The cause of goiter cannot be attributed to any one agent and is perhaps due to a combination of two or more circumstances as, lack of iodine, fetal inclusions, infections thyroidal or extra thyroidal, adolesence, menstruation, pregnancy and lactation.

The lack of iodine in childhood probably accounts for the endemic regions being far distant from the sea water of the coast, as the Great Lakes region of America, Switzerland of Europe and the Himalayas of Asia. Its greater prevalence today is likely due to our not administering Spring and Fall tonics, which were chiefly of iodine, as did our predecessors in the practice of medicine.

It is more prevalent in women because of the added stimulus given the gland as evidenced by its enlargement at menstruation, pregnancy and lactation.

Infection, whether it be in the duodenum or colon, as thought by McCarrison, or in the teeth, tonsils or lungs, may be an exciting cause. We all have noticed how the early tubercular case may present slight fever, tachycardia, tremor and loss of weight, symptoms common to the hyperthyroid patient.

For clinical purposes goiters may be classified as follows:

1. Simple goiter which includes the hyperplasias of the gland seen in adolescence. These rarely present symptoms but may become unsightly.

2. Colloid goiter usually symptomless except for pressure on adjacent structures.

3. Adenomatous goiter, single or multiple, cystic or calcified, sometimes suddenly enlarge from intra-glandular hemorrhage and sometimes have periods of toxicity.

4. Exopthalmic goiter, hyperthyroidism or thyrotoxicosis; more properly an altered thyroid secretion with its presence of extremely slight or quite marked enlargement of the gland, tremor, tacycardia and perhaps some degree of exopthalmos.

The goiter case will present itself for examination because of the predominance of some one of the following signs or symptoms: unsightliness of the neck, pressure symptoms about the

*Address, Effingham County Medical Society, Nov. 13, 1923.

throat or neck, nervousness and weakness, palpitation of the heart, undue prominenec of one or both eyes, loss of weight and sometimes diarrhea. On examination the case may be found to have one or all of the symptoms just enumerated.

Pressure symptoms are caused not so much by the size of the goiter as by its location. A mass an inch or inch and a half in diameter slightly dipping under the sternum or clavicle may give more annoyance from pressure on the trachea than a larger growth. A goiter broadening the neck but not unduly prominent anteriorily may produce a paralysis of the brachial plexus, or by pressure on recurrent laryngeal nerve paralyze a vocal cord recognized only as a hoarseness after considerable use of the voice. Without any fullness in the thyroid region there may be a cyanosis of the face and tortuosity of the veins of the neck and upper chest from a substernal goiter.

The nervous case complains of weakness and "nervousness," is vague in giving a description of the symptoms, occasionally presents mental peculiarities suggesting a border line insanity case. Frequently the examiner will turn aside to hide his disgust at being annoyed with another so-called "neurotic." If the patient is asked if the nervous feeling is in the nature of an internal quiver there is a ready response of "yes." The examination will reveal usually a fine, sometimes a coarse, tremor of the extended fingers and the other symptoms of hyperthyroidism which will lift the case out of the class of the neurasthenic or the hands of the alienist.

One of the great fears of the human race is that of heart disease associated with which is the common subjective symptom of palpitation. The patient with this symptom is alarmed about the palpitation but not especially disturbed over the pulse rate of 90 to 150 or more, or arrythma. The heart examination shows a flappy character to the heart tones, murmurs more frequently over the base and varying degrees of enlargement of the cardiac area.

Prominence of the eyes does not often cause the case to be examined unless of marked degree or where the protrusion of one is much more noticeable than the other. In the later case the oculist may suspect a tumor of the orbit.

E. P. Sloan has called attention to a high sustained pulse rate out of all proportion to the temperature curve as a toxic goiter symptom in differentiation from tuberculosis. Also that the presence of tuberculosis is no contraindication to operation. Recurring attacks of diarrhea may lead the patient and examiner to suspect a chronic colitis.

Loss of weight and weakness may cause a case to seek examination for early tuberculosis. E. P. Sloan calls attention to the fact of the goiter case carrying a pulse rate out of proportion to the temperature curve. Recurring attacks of diarrhea may lead the patient and examiner to suspect a chronic colitis.

The hyperthyroid case will present some or all of these symptoms with an enlargement of the thyroid. This enlargement may be so slight as to raise a doubt in the mind of the examiner that so small a thing can produce such pronounced symptoms. Yet we are frequently amazed at the large size of a goiter on operation that seemed so small on external palpation.

Basal metabolism rate is increased in the hyperthyroid and may be of assistance in diagnosing border line cases. For determination of operability or prognosis it is of little value.

Marine's study of the effect of iodine on school children in Akron, Ohio, has made it possible to prevent goiter in children of goitrous regions. Iodine should be properly administered to the pregnant mother and to the child up to and through the period of adolescence. It should be borne in mind, however, that iodine exerts little or no benefit in goiter after the age of twenty-five. In addition it is believed that the use of iodine or thyroid products may cause many a quiescent goiter and especially adenomas to become hyperthyroid or exophthalmic. C. H. Mayo states that the administration of iodine for a short period of time to exophthalmic cases may temporarily improve the symtoms.

From the pioneer work of Theo. Kocher to the efforts of our present day surgeons the surgical treatment of goiter has been robbed of its terrors, high mortality and made comparatively safe. In our own limited series of 240 cases of all types including one carcinoma which was operated on eleven months ago and still living without apparent recurrence, we lost one case in twenty-six hours from hyperthyroid reaction and one four weeks after ligation from acute dilation of the heart. The prompt and marked improvement in symptoms and early restoration of

the individuals to usefulness has made this one of the most gratifying of surgical procedures.

Lahey's technique of thyroidectomy preserves the para thyroids, recurrent laryngeal nerves and leaves behind a predetermined amount of thyroid tissue. De Quervain's bilateral longitudinal separation of the pre-thyroid muscles makes the high superior pole cases easily accessible. His method of ligating the superior and inferior thyroid arteries preliminary to delivering substantal goiters has made these cases almost bloodless.

To summarize: Any goiter may produce pressure symptoms due to the location of the growth rather than its size.

Goiters other than the adolescent hyperplasias and colloids may intermittently or continuously produce hyperthyroidism.

That the size of the goiter is in no way indicative of its toxicity.

The presenting symptoms of weakness, nervousness, palpitation, undue prominence of the eyes, loss of weight or digestive disturbances may have as an underlying factor hyperthyroidism.

The endemic form of goiter is preventible by the administration of iodine.

That the low mortality rate of surgical interference with prompt improvement of symptoms make it the choice of treatment for the hyperthyroid cases.

Citizens' Trust Building.

THE STATUS OF EPIDEMIC ENCEPHALITIS AS AN INDEPENDENT DISEASE*

PETER BASSOE, M. D.
Professor of Nervous and Menta Diseases, Rush Medical College.
CHICAGO

The clinical and histological features of epidemic encephalitis have become so well recognized as constituting a fairly definite nosologic unit that the disease is now generally accepted as a specific infectious disease, although no agreement has been reached as to its etiology. Until the etiology of this disease, and of poliomyelitis, and influenza, and perhaps some other infections has been definitely established there will remain some doubt as to the entire independence of one from the other. As far as poliomyelitis is concerned, however, the matter may be considered settled. To the many clinical and anatomic points of distinction recent experimental work has added the observations that: (1) poliomyelitis, while readily transmitted to monkeys, is only with difficulty transmitted to rabbits, while the opposite is true of encephalitis (Levaditi: Kling); (2) poliomyelitis serum and previous poliomyelitic infection do not confer immunity to encephalitic infection (Levaditi: Amoss); (3) poliomyelitic virus inoculated on the cornea of rabbits produces no lesion, while that of encephalitis produces keratitis, and later, passing along the optic nerves to the brain, encephalitis (Levaditi).

Influenza and encephalitis. It is clear that the latter is not a mere sequel of the former as most of its victims have not had influenza. While in a general way epidemics of the two diseases have coincided in a striking manner, this is not a universal rule. Cases of encephalitis appeared in Vienna and probably in France before the influenza epidemic, and in many localities influenza had become rare when the encephalitis epidemic reached its height. The tendency to pneumonia and to leukopenia characteristic of influenza is lacking in epidemic encephalitis. Of great importance is the fact that the type of encephalitis most frequently seen as a direct sequal of influenza differs from the epidemic form by a greater tendency to hemorrhages and by not selectively involving the basal ganglia. Nevertheless, no matter how much we emphasize differences between the two diseases, we must admit some sort of relationship. Economo suggested that the encephalitis virus requires activation by that of influenza except that with poor nutritional and hygienic conditions as they prevailed in Vienna during the war such activation is unnecessary. It has also been suggested by Stern[1] that influenza produces a weakening of the vessel walls and increased permeability of the capillaries which predispose to localization of the encephalitic virus. Stern suggests also that pneumococci, streptococci and other bacteria in addition to the influenzal virus may act as activating agencies.

Herpes simplex and encephalitis. This problem began to receive the attention of many investigators after the publication by R. Doerr[2] of the observation that some of the rabbits inoculated on the cornea with the contents of the vesicles of labial or corneal herpes developed various nervous symptoms, such as trismus, convulsions and par-

*Read before the Section on Public Health and Hygiene, Illinois State Medical Society, Decatur, May 16, 1923.

1. Stern, Felix: Die epidemische Encephalitis. Berlin, Julius Springer, 1922.
2. Doerr, R.: Klin. Monatsbl. f. Augenheilk., 1920, LXV, 104.

alyses. G. Blanc[3] found that intracerebral infection in rabbits from vesicular contents in human herpes or rabbit's keratitis would cause fatal encephalitis which could be transmitted to a series of rabbits by injection of brain emulsions. Sometimes corneal herpes would reappear in these animals. Blanc and J. Caminopetros[4] discovered that strong ocular reactions sometimes immunized rabbits against intracerebral injections. A relationship between lethargic and herpetic encephalitis suggested itself when Levaditi and Harvier[5] observed the occasional appearance of corneal herpes in rabbits inoculated with human encephalitic virus. Doerr and Schnabel[6], after succeeding in transmitting human epidemic encephalitis to rabbits, obtained subsequent passages by both the intracranial and corneal routes and demonstrated the existence of a crossed immunity between herpes and epidemic encephalitis as rabbits inoculated with one were immune to the other. Similar observations were made by Levaditi, Harvier and Nicolau[7] who came out boldly with the opinion that the virus of the two diseases was identical, that the herpes being only milder than that of epidemic encephalitis. This view has been further enlarged upon by Levaditi in his recent book[8] where he expresses himself about as follows:

In certain individuals, the saliva contains a specific filtrable organism whose virulence varies within very wide limits. In most cases it merely vegetates in the saliva without producing symptoms. In others it causes mild, more or less febrile disorders of the type of simple herpes, herpetic angina, or herpes of the cornea. Under certain conditions its virulence increases and it becomes capable of attacking the central nervous system. In addition to being "epitheliotropic" this virus becomes "neurotropic," passes through the barrier of the nasopharyngeal mucosa and, passing along the nerve paths, it reaches the brain and produces either larval or typical epidemic encephalitis.

More recently R. Doerr and W. Berger[9] discussed the relationship (1) between the virus of epidemic encephalitis and that of herpes febrilis and (2) between epidemic encephalitis and influenza. They report positive crossed immunity experiments with the virus of a new case of encephalitis and a very virulent herpes virus. The encephalitis virus was obtained from the brain of a physician with rather mild, but characteristic lesions. Only one of the rabbits inoculated developed cerebral symptoms which came on eight days after inoculation and caused death in a few hours. Brain material from this rabbit was virulent both by corneal and cerebral inoculation but animals infected with it were rendered immune to a strong herpes virus, which in turn protected animals against the encephalitic virus. The authors assure us that the animals used in these experiments cannot possibly have suffered from a spontaneous disease existing among rabbits. These authors endorse the view that the herpes-encephalitis virus is the cause of human epidemic encephalitis.

Their only contribution to the influenza-encephalitis problem is a report of failure on the part of blood from seven influenza patients to produce lesions on the cornea of rabbits.

C. Da Fano[10] has made extensive experiments and endorses the view that all forms of herpes, with the possible exception of herpes zoster, may be considered as manifestations of an infectious disease *sui generis* and that the herpetic virus produces an encephalitis resembling that of the epidemic disease.

Jonas S. Friedenwald[11] states that herpes zoster is a well-defined clinical entity, but whether it is an infectious disease due to a specific organism has not as yet been proven to his satisfaction. On the other hand, his work has convinced him that simple herpes (herpes simplex) is due to a single specific infectious organism. He writes:

Simple herpes and the corresponding forms of herpetic keratitis have generally been regarded as symptoms rather than as a specific disease entity, symptoms that might be produced by any one of a number of different etiological agents. The frequent occurrence of herpes in various infectious diseases such as pneumonia, epidemic meningitis, malaria, multiple sclerosis, and infectious jaundice, as well as in many mild grippe-like infections, is well known. So also is the occurrence of herpes after intravenous and arsenical therapy, during menstruation, after dietary indiscretions, and even, as sometimes alleged, after emotional stress. It would seem difficult to assign any specific etiology to a condition which occurs under such a wide variety of circumstances, but it should be remembered

3. Blanc, G: Compt. rend. acad. des sciences, 1921, CLXXII, 725.
4. Blanc and Caminopetros, J.: Compt. rend. soc. biol., 1921, LXXXIV, 767.
5. Levaditi and Harvier: Ibid, p. 300.
6. Doerr and Schnabel: Schweiz. med. Woch., May 19, 1921.
7. Levaditi, Harvier and Nicolau: Ann. de l'Inst. Pasteur, January, 1922.
8. Levaditi, C.: Ectodermoses Neurotropes: Poliomyelite, Encephalite, Herpes. Paris. 1922
9. Doerr, R., and Berger, W.: Schweiz, med. Woch., August 31, 1922.
10. Da Fano, C.: Jour. of Path. and Bact., January, 1923.
11. Friedenwald, Jonas S.: Archives of Ophthalmology, March, 1923.

that herpes occurs perhaps most frequently as an isolated phenomenon, or at best associated with mild grippe-like symptoms,—congestion of the upper respiratory tract, slight general malaise, moderate psychic depression, and perhaps even a low fever. This last condition has sometimes been called "herpetic fever."

He is particularly impressed by the report of K. Mayer[12] of an outbreak of "herpes labialis epidemicus" in an isolated company of troops. Five out of six officers and thirty of seventy privates were affected. A similar epidemic was reported in 1920 by Zlocisti[13] who points out that there is a belief widely held among the laity that labial herpes is contagious and remarks that popular beliefs of this kind often are based on sound though uncontrolled observation and deserve more respect than is generally accorded them by the profession. The conclusions of the author, based upon experiments and study of the literature, are as follows:

1. Herpes simplex in both its corneal and facial manifestations is due to a specific virus.
2. This virus is found constantly in the lesions of herpes simplex but not in lesions of any other condition examined. It can be found in the herpes at the time of their earliest appearance, during the vesicular stage, and, at times, in late crusted lesions.
3. The virus is highly infectious for rabbits, causing in them a diseae which in many respects resembles herpetic keratitis in man.
4. A certain number of rabbits whose corneae have been infected with this virus develop an acute and often fatal encephalitis.
5. The pathology of experimental herpetic keratitis in rabbits resembles that of herpetic keratitis in man.
6. The path of the virus from the cornea of a rabbit to its brain is probably along the sensory nerves of the cornea.
7. Treatment of experimental herpetic keratitis by the methods usually used in the treatment of herpetic keratitis in man produced no favorable effect on the course of the disease. The use of strong solutions of cocain produced a deleterious effect.

Comment on the Herpes Theory. The only comment I wish to make on this theory by Levaditi, Doerr and their followers is one which already has been made by Stern, namely that if epidemic encephalitis is caused by an exceedingly common virus which exists in the mouth of a great many people without doing harm, then we are not so much interested in this virus itself as in the activating agency which suddenly enables it to produce a serious brain disease. We may even assume that the disease is spread by the transmission of the activating agency rather than by the virus itself. In other words, this theory implies that encephalitis is the result of symbiosis and interaction of two or more microorganisms, or of certain biochemical conditions in the host of the ordinarily harmless virus. In either case the virus itself is to be compared to a revolver, sword or other weapon, itself a dead object which requires a directing hand and mind to cause injury to a human body.

Recent investigations in Sweden are very interesting and worthy of close attention as the work has been done largely by the same men whose work on poliomyelitis ten years ago was most important.

The leader of the work, C. Kling,[14] first gives an interesting critical review of previous bacteriological and epidemiological work as well as the results of his own important investigations. He considers the diplo-streptococcus of v. Wiesner as now of only historical interest. He rejects the "globoid bodies" for various reasons. First of all he is suspicious of the first reported successful inoculation of a monkey by Strauss, Loewe and Hirschfeld, because: (1) others have failed in infecting monkeys, (2) the monkey became ill on the second day and died on the fourth day, making the period of incubation too short, (3) because of the prominence of hemorrhages in the brain and (4) the production of perivascular infiltrations in rabbits is not conclusive as it may be produced by a great many infections.

During the winter of 1920-'21, Kling and his associates studied an epidemic in a small community in Northern Sweden. The morbidity in the villages varied from 7 to 45 per cent, in some families nearly all members being affected. This high morbidity is explained by the presence of a large number of abortive cases, with febrile onset, mild catarrhal symptoms, headache, tenderness of the scalp, and rheumatoid pains. These mild cases are considered most important factors in spreading the disease, especially as there is no reason for suspecting drinking water, milk, or insects of playing any part. The period of incubation could be deterimned with apparent accuracy in three cases, and in each it was ten days.

Bacteriologic examination was made in 100 cases, among them twelve fatal ones. There was no success with 30 inoculations in monkeys. Rabbits are quite easily infected by intracerebral or ocular inoculation, but it is important to note

12. Mayer, K.: Schweiz. med. Woch., LI, July, 1921.
13. Zlocisti: Beitr. z. Klin. d. Infektionskr. u. z. Immunatgetsforsch. 1920, VIII, 157-175..
14. Kling, C.: Hygiea, November 15 and 30, 1922.

that in the author's experience—unlike that of American and French observers—the disease in the animals was chronic and slowly progressive with slight symptoms even in the presence of marked histologic changes. A few animals died one to seven months after inoculation. The histologic changes in the brain usually appeared from three to five months after inoculation. If streptococci or other bacteria are present, the animals may die within a few days, but the pure virus can then be isolated by filtration or by preservation in glycerine. In most cases the experimental encephalitis in rabbits is a latent infection but sometimes cerebral symptoms resembling those in man were observed, such as spasticity, a catatonic state, paralyses and salivation. The histologic changes are exactly like those in the human disease. No organisms were isolated and attempts to cultivate the virus on media were unsuccessful. The virus has been obtained from the brain substance, cerebrospinal fluid, pharyngeal secretion and intestinal contents. After reviewing the work of Swiss and French investigators (especially Doerr and Levaditi), Kling subjects their deductions to a searching criticism. When repeating their technique, he isolated two strains of herpes virus and one of them after corneal inoculation nearly always gave rise to an encephalitis. However, he found that the herpes virus differed from that of encephalitis in not being resistant to ether, and the encephalitis produced in rabbits by the herpes virus was more acute with appearance of polymorphonuclear cells in the meninges and cerebral cortex. While the herpetic virus produced an intense, purulent keratitis, that of encephalitis when inoculated into the eye produced only a transient keratitis. The corneal inflammation was followed by encephalitis within a few days after use of the herpetic virus while that of encephalitis only produced brain changes after four to six months. The encephalitis virus is inhibited by encephalitic convalescent serum, which is not true of herpetic virus. Kling found that encephalitis virus did not produce immunity to herpetic infection. He strongly suspects that both Levaditi and Harvier and Doerr and Schnabel really experimented with a herpes virus and not an encephalitic one. The rarity of herpes labialis in human epidemic encephalitis also speaks against the identity of the virus of the two diseases.

After emphasizing the tendency to late manifestations and chronicity in human epidemic encephalitis, the author looks with some favor upon the suggestion made in various quarters that both Sydenham's and Huntington's chorea, the so-called electric chorea, Parkinson's disease, and some forms of multiple sclerosis, especially the acute type, may be manifestations of epidemic encephalitis. Kling made inoculations in rabbits in five cases of postencephalitic syndromes more than one year after the acute stage and obtained positive results in three. He is inclined to believe that epidemic encephalitis is not a new disease, that it has existed in various chronic forms for a long time and that the appearance of epidemics in many places at the same time was due to the combination of several factors such as increase in susceptibility of the nervous system due to the effect of the war, and to the presence of other infections. Thus the early cases in Vienna were evidently complicated by streptococcus infection which led v. Economo and v. Wiesner to assume that a streptococcus was the cause of encephalitis.

Kling ends his paper with the suggestion that the virus of encephalitis may be of as great importance in the pathology of nervous diseases as the spirochaeta pallida. The fact that the virus can be passed from rabbit to rabbit makes it possible to study the effect of drugs, and the demonstrated inhibiting effect of convalescent serum offers a hope that serum therapy is within the range of possibility. It is possible that active immunization after the principle of Pasteur may be developed.

General Summary of the Situation. In spite of the building up of a varied, yet quite individual symptomatology, including numerous and very characteristic sequels, and of a definite, one may almost say pathognomonic, morbid anatomy, we must admit that the position of epidemic encephalitis as a disease *sui generis* is not absolutely secure. No exclusive microbic cause has as yet been generally accepted. The history of medicine is not lacking in instances of nervous diseases being "discovered," apparently shown to be clinical entities and possessed of a definite pathologic anatomy, yet proved to share their microbic cause with very dissimilar disorders of various parts of the body. I refer particularly to general paresis and tabes, parts of the protean disease syphilis, and the African "sleeping sickness," a manifestation of trypanosomiasis.

It is difficult to form an opinion on the rival

etiologic claims, but I have a feeling that the "globoid bodies" of the New York investigators and the diplo-streptococci described by v. Wiesner and later particularly by Rosenow really may be the same polymorphous organism. One group of investigators discard the full sized cocci as contaminations and filter them out while the others minimize the minute forms. As to the disease studied in rabbits by Kling, the very long incubation makes us suspect that he may be dealing with a spontaneous disease in rabbits. Unless the contrary is proven, it is best to look upon epidemic encephalitis as an entity, with the reservation that future investigations possibly may show it to be only one manifestation of a general disease. This we consider improbable.

DISCUSSION

Dr. Meyer Solomon, Chicago, in discussion of Dr. Bassoe's paper: There are just two or three points I would like to mention. With respect to the relationship of this disease to influenza, the thought that comes to mind is that many diseased conditions begin with fever and some symptoms of the febrile stage and that at the onset the individual who is about to get encephalitis might on like occasions get the febrile symptoms closely resembling influenza. Then perhaps because of getting out of bed too soon or for some reason or other the real disease presents itself in marked form so that we really have the preceding history of a pseudo-influenzal syndrome rather than influenza. It has not been proven that influenza must antedate this disease or that the febrile syndrome that we get here is really influenza. There is no doubt, though, that the organizms responsible for both diseases belong to a closely similar type. As to just what organism is the cause we will have to leave it to the bacteriologist and the research workers along that line.

The incubation period is important. Dr. Bassoe referred to the work by Kling and as he can read that language and I cannot and I have only an abstract of it, I think it would be interesting if he would present a little more concerning Kling's work. I think Dr. Kling showed the disease was transmitted from one person to another. He had an opportunity to study the incubation period and fixed it at approximately ten (10) days.

I would also be glad to hear what Dr. Bassoe would have to say about how health departments should handle this condition; how long the patient should be quarantined and how far we should go. In the city of Chicago at the present time the patient is isolated; no placards are put up; until the termination of the active symptoms the susceptible children are not permitted to go to school. I would like to hear just how far Dr. Bassoe thinks we should proceed with the quarantine of these cases.

Dr. I. D. Rawlings, Springfield, in discussion of Dr. Bassoe's paper:

I would like to hear from Dr. Bassoe as to how infectious this disease is and as to the period of quarantine. I can not help but think of the possibility of this disease having some relation to influenza. We know we are not getting all the cases reported to the city health departments or to the State Department but in 1920, '21 and '22 there were 653 cases reported during January, February, March and April the period when influenza was most prevalent.

I would like to ask Dr. Bassoe if he has anything in the way of statistics that may prove the direct relation between influenza and this epidemic encephalitis. The month of highest number of cases reported was January, during these three years when a total of 204 cases were reported and dropped in Sepember to 12 which was the lowest. It was most prevalent in the first two months of the year according to our figures.

Dr. S. S. Winner, State Department of Health, Springfield:

I would like to say a few words about epidemic encephalitis. During the year of 1919 and 1920 I investigated some 200 cases of epidemic encephalitis. Now, the period of incidence, the time of year or the seasonal incidence in counter distinction to poliomyelitis was during the winter months as Dr. Rawlings recited here. In most of the cases I investigated, a history of influenza was obtained. In about 40 per cent of the cases influenza antedated the attack of encephalitis by about two weeks. In the rest, a majority gave a history of influenza sometime within a year. Here is one interesting feature, that preceding the attack of encephalitis there was a nervous disturbance of some kind, either mental or physical. Whether that had any relation to the attack or not I do not know.

About the secondary cases, the contacts and exposures. I was unable to find any secondary cases in the same family although they seemed to occur in the same neighborhood just like poliomyelis. I remember of two cases in Oak Park, where one of the nurses in the Oak Park Hospital developed the encephalitis. I saw the case with Dr. Needham, of Oak Park, the local health officer. One of the girls in the hospital, another nurse, slept with this girl a few nights until she was isolated. The second girl developed encephalitis within two weeks. She had the oculo-motor disturbances and the somnolence; the only instance I had in my experience when I saw a secondary case develop in a direct contact in the 200 cases in my experience.

Dr. Bassoe, Chicago (closing discussion): The fact regarding previous epidemics are vague, but during the 1890-'92 epidemic of influenza, there was a disease called nona, which according to all descriptions must have been the same only it was so mild that there were almost no deaths from it, and almost no post mortem work was done. However, there has always been a sort of loose relationship between the epidemics of the two diseases. Sometimes encephalitis has appeared in a community months or a year after the influenza epidemic has passed. So far as the indi-

vidual patient is concerned, a history of previous influenza is often lacking.

I was very much impressed by the first 11 successive patients I saw, not one of whom had influenza. In my own experience, I should say that less than 25 per cent gave a clear history of anything like influenza either shortly before or long before and the initial catarrhal or febrile symptoms sometimes erroneously attributed to influenza were really caused by the encephalitis virus itself and not by influenza. The period of incubation in the Swedish epidemic was fixed at 10 days in the human disease while in the rabbits it was months.

I quite agree with Dr. Winner's statement about the preceding nervous disturbances or run down condition. I do think that is a factor we get very frequently in taking the history, and it may be that these are some of the conditions necessary for the virus to take hold. As to contact cases, I also know personally of the case of a nurse who had taken care of an encephilitis patient and developed the disease herself. Some of the reports from England, France and Sweden are certainly very convincing that contact infections do occur, but that they are very rare, not any commoner than in poliomyelitis, so we almost disregard them. It seems to me that for a State which allows people with active syphilis and gonorrhea to be at large it would be absurd to quarantine victims of a disease with the actual contact infections so rare that you have to scan the literature of a half dozen countries to get a few cases assembled. I forgot to say I am heartily in favor of the compulsory reporting of cases. It is very important, I think.

SOME OF THE MORE COMMON NEUROSURGICAL CONDITIONS*

ERNEST SACHS, M. D.
Professor of Clinical Neurological Surgery
Washington University School of Medicine
ST. LOUIS, MISSOURI

Before this gathering, composed of men interested in various lines of medicine, it seemed to me but two possible phases of neurological surgery could be discussed. A general paper, covering the various groups of cases that have fallen into the domain of the neurological surgeon, or a more detailed discussion of the most common conditions in this field about which various misconceptions still exist. Brevity and a fondness for cold facts have prompted me to select the latter subject.

The two subjects, therefore, I shall confine my attention to this evening are trigeminal neuralgia and gliomas of the brain.

TRIGEMINAL NEURALGIA

Those of us who perhaps rather rashly put all of our eggs in one basket, and have given up all general surgery, have naturally welcomed the definite trend of the last five years on the part of the general surgeon to leave the problems of neurological surgery to those specially trained and interested in that work. As a consequence, the entire prognosis of such a disease as trigeminal neuralgia has changed. A disease whose radical treatment by operation had such a high mortality that clinicians sought other means of relief in order not to subject their patients to such grave risks, has today practically no mortality, much less than one per cent. It is amazing, however, how slowly the truth filters through. Textbooks incorporate new ideas so slowly that not infrequently, as in this instance, they are fully ten years behind the times, for all I have looked at still say this operation is one of the most dangerous of operations.

The best methods of treating this disease are now well established; the most difficult problem centers now about the correctness of the diagnosis. A few years ago I used to say that if a patient had a return of pain after a Gasserian ganglion operation, the operation had been done imperfectly, but we have all had the trying experience occasionally that in spite of a technically perfect operation, as proven by the complete anesthesia of the region supplied by the fifth nerve, the patient still had pain. In almost all these instances, the diagnostic error is that one of those very peculiar nasal neuralgias, to which Sluder of St. Louis first drew attention, has been mistaken for a true tic douloureux. It has been my privilege to be associated with Dr. Sluder for the last twelve years, and even he has at times been quite at a loss to find the cause of these pains in the distribution of the trigeminal nerve. How can this error be avoided in future in the doubtful cases? The most effective method is to inject one of the affected branches with alcohol to see if this temporarily relieves the pain. If it does, it is undoubtedly a true tic douloureux, and operation on the posterior root of the Gasserian ganglion then always results in a cure. If injection of a branch does not give relief, cocainization of the spheno-palatine ganglion, as devised by Sluder, as a rule clears up the diagnostic dilemma.

The nasal neuralgias, however, are not the only conditions which simulate tic douloureux. The other conditions are inflammatory condi-

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tions about the face and jaws, infected or impacted teeth, tumors on the jaws or gums, retro-pharyngeal tumors, or intracranial tumors pressing on the Gasserian ganglion, so-called Gasserian ganglion tumors. All these must first be excluded. None of these are difficult to recognize when once thought of, with the exception of the Gasserian ganglion tumors. Some years ago I reviewed these cases and set down the symptoms and signs that were characteristic and differentiated the condition from tic douloureux. These were: constant pain in the distribution of the fifth nerve, not pain occurring in paroxysms; paralysis of the motor branch of the fifth nerve; anesthesia or hypesthesia in the distribution of the fifth nerve.

Before resorting to an operation on the posterior root of the ganglion, which always remains a formidable operation even if not dangerous as it formerly was, the surgeon must satisfy himself, even after he has decided he is dealing with a trigeminal neuralgia, whether the disease is severe enough to warrant the radical operation or whether palliative measures are indicated. No hard and fast rule can be laid down on this matter.

I use but two methods of treatment, either alcohol injection, or the radical operation on the posterior root of the ganglion. I do not believe in any of the peripheral extractions of the nerve; they are disfiguring, are only palliative, and often do not afford nearly as much or as long relief as do the alcohol injections. When but one branch is involved, an alcohol injection should almost always be tried first; but I have done the radical operation where but one branch was involved, either because of the patient's intense suffering and desire to be permanently cured, or because the patient grew tired of repeated alcohol injections and wished permanent relief. In very few instances has it been my good fortune to give permanent relief by an alcohol injection; as a rule the pain returns within one to two years.

The operation on the posterior root of the ganglion has replaced the earlier operation of removal of the ganglion itself. It is somewhat easier, requires a smaller exposure and, as pointed out by Spiller and Frazier, who first suggested the operation, accomplishes all the removal of the ganglion did. It has, furthermore, certain advantages, for it makes it possible to save the motor branch of the fifth nerve, thus avoiding paralysis of the muscles of mastication on one side, which does not in any way interfere with mastication but at times annoys particularly sensitive patients; and secondly, very recently a slight technical improvement has made it possible in selected cases to save the fibres of the ophthalmic division, thus avoiding anesthesia of the cornea.

Though this operation has practically no mortality, there are post-operative results that may be very annoying, and it is well to keep these in mind. Any one who has seen the fearful suffering of a patient with major trigeminal neuralgia would suppose that any discomfort would be readily borne if the pain is gone, but we all forget past pain quickly, and the discomfort of the moment is always more prominent.

Some of these patients, after operation, are annoyed by the numbness of their face, which is an inevitable accompaniment of the operation. It feels "woodeny," or "thick," or at times they say it feels "crawly." The vast majority of patients very soon grow accustomed to this, but occasionally a patient is much annoyed. There is nothing to do for this, and a patient should always be told beforehand of this and the other post-operative possibilities.

A much more serious complication occasionally occurs, namely, paralysis of the facial nerve with consequent inability to close the eyelid. This has happened to me three times in my series of over sixty cases. Fortunately the facial nerve recovered in all three cases, but during the period of recovery the eye is in a very precarious condition. The cornea is anesthetic as a result of the extirpation of the fifth nerve, and a corneal ulcer is almost unavoidable. These ulcers may be difficult to heal, and the cooperation of an ophthalmologist, who understands the difficulty of the problem, is necessary. Saving the ophthalmic division of the fifth nerve obviates this complication, but I hesitate to do this, as, in trying to separate the fibres to the first division, one may leave some second division fibre, and leaving any of those fibres means a continuance or recurrence of pain. Besides, if certain simple precautions are followed, patients will have no trouble. The precautions are these: First, having the anesthetist keep the eye covered so that no ether fumes come in contact with the cornea; second, covering the eye

at the end of the operation so that the patient cannot touch his anesthetic eye ball; and third, instructing the patient how to wash out his eye with salt solution in an eye cup to remove any irritating particles that he could not feel because of the anesthesia of the cornea.

In the past year, several articles have appeared which contained some misleading statements in regard to the subject. One was that if this operation were done under general anesthesia, the patient would be greatly shocked and therefore it should be done under local anesthesia. This has not been my experience. My patients practically all sit up in bed the next morning and leave the hospital in five to seven days after operation. This operation should be done deliberately, and if troublesome bleeding is encountered, as occurs in a certain number of cases, progress may be slow and difficult. It is a trying operation for the surgeon. Why make it also trying to the patient by making him go through the added ordeal of all that goes on about him? A certain amount of pain is inevitable with local anesthesia and this the patient can well be spared. I have used local anesthesia in a few cases but find no benefit to the patient and have, therefore, discarded it.

The other statement is that facial paralysis occurs after almost all of these operations. This is absolutely incorrect, and were it true would be enough to discredit the operation. When a sensory nerve is destroyed, the muscles which receive their sensory supply from it lose their tone, but the muscle still can be moved. Occasionally, for a few days, one may see such lack of tone, but that is not a facial paralysis, for all the muscles innervated by the seventh nerve can be moved. Rarely a true facial paralysis occurs, the cause of which has occasioned much discussion, but when it occurs the picture is a very different one.

I feel that few, if any, operations in surgery are followed by more satisfaction, in the vast majority of cases, than is the extraction of the posterior root of the Gasserian ganglion.

GLIOMA OF THE BRAIN

The second subject, gliomas of the brain, which I wish to take up with you, has two points of similarity to the first. The text-book information is very inaccurate, and secondly, specialization has advanced the treatment and improved the results tremendously. But there the similarity ends, for the operations have a mortality varying between ten and fifteen per cent, though the permanent cures are much lower than the operative recoveries. Infiltrating tumors never yield as large a number of permanent cures, though newer methods are constantly increasing the number of cures. I use the term infiltrating and not malignant, as I feel there is a very definite difference between the two terms when applied to the brain. A tumor that only infiltrates, but never metastasizes, is more amenable to treatment than one that metastasizes as well as infiltrates. Gliomas never metastasize, and only some of them infiltrate. Quite a few are sharply defined and can be cleanly enucleated, and others are cystic and the growing portion of the tumor is a small nubbin of tumor on the wall of the cyst which can readily be removed and a permanent cure thus be effected.

The infiltrating gliomas require a very extensive and radical type of operation if we hope to cure them. There are those who believe that such gliomas should be left alone, but I cannot share that view. I attempt to remove the entire tumor if I can, and then follow it up with very intensive deep x-ray therapy. I gave up radium over two years ago, as it was quite ineffective in my hands and tended to stimulate, rather than inhibit, any tumor tissue that had been left, but with powerful x-ray therapy the results are very promising. Whenever the tumor can be localized, I believe in going after the tumor, and only use palliative measures where no localization is possible, or where, for some special reason, I don't think a patient can stand an extensive radical operation. I want to say right here that there is no method in my experience which enables us to localize one hundred per cent of brain tumors, just as I know of no other method in medicine that gives one hundred per cent results, and therefore there are instances in which palliative measures must be employed, but these are becoming fewer as our methods of diagnosis are becoming more accurate.

This brings us back to the most important phase of this subject, as it was of the first one I took up, namely, the diagnosis in these cases. I have, of course, no time to go over the entire question of brain tumor diagnosis; I merely want to point out the distinguishing diagnostic features of the gliomas, and the methods that are

most useful in arriving at a localizing diagnosis.

The gliomas constitute fully forty-five per cent of all brain tumors. The history very frequently will enable one to predict the nature of the tumor. There are gliomas that are present for a long time, but in the vast majority of cases the symptoms develop rapidly, sometimes in four to six weeks, and therefore it is essential to recognize them early, for they may grow at an amazing rate.

The second most frequent growth in the brain is the endothelioma. The gliomas and endotheliomas together comprise between sixty and seventy-five per cent of all tumor cases. The rate of development of the disease is the great distinguishing feature between gliomas and endotheliomas. If a patient develops brain tumor symptoms rapidly he has almost certainly a glioma; if the symptoms develop slowly, it may be an endothelioma, though once in a while gliomas develop slowly, especially if they are cystic. The symptoms of onset vary greatly, but the rate of progress of the disease is the most important single factor which makes one suspect a glioma.

Our diagnostic methods may be summed up under four headings:

1. A neurological history.
2. Neurological examination, which includes, of course, very careful eye fields.
3. X-ray.
4. Air injection of the ventricles.

The first two still are the most important methods we possess. The x-ray may be a valuable aid, and air injection may be a further aid, but the latter, in my experience, is by no means an infallible method. In fact, in my hands air injection has rarely helped me, though in a few instances it has been of distinct value and has made a localizing diagnosis possible when all other methods failed; but, on the other hand, it has misled me a number of times, and is attended by some risk, and in one instance, at least, was the cause of death.

The history, if taken by one specially trained to study these cases, is invaluable, for by proper questioning, early symptoms may be developed that would be missed in the ordinary questioning. The initial symptom and the sequence of symptoms are of vital importance, particularly in aiding in the localization. It is from the history very frequently that one can determine whether one is dealing with a glioma or some other type of tumor.

Brain tumors need early treatment. They should not be temporized with; as soon as a brain tumor is suspected, the physician should get action. There are two "dont's" that I should like to refer to right here. Unless you have positive evidence of syphilis, don't lose precious time by giving antisyphilitic treatment; gummas of the brain are much rarer than tumors. In over three hundred and fifty craniotomies for suspected tumor, I have only found three cases of gumma. The second "don't" is not to use lumbar puncture in cases that are clearly tumor cases, as shown by the severe headache, changes in the eye grounds, or evidence of marked increased intracranial pressure on x-ray. In such cases lumbar puncture is a real danger, and has been responsible for a large number of unreported deaths. I do not wish to be understood, however, as advising never to do a lumbar puncture, for there are cases where a knowledge of the cerebro-spinal fluid is essential, particularly to exclude cerebro-spinal syphilis, for at times in these cases the eye ground picture of optic neuritis is indistinguishable from choked disc. The cell count of the cerebro-spinal fluid is of far greater value than the amount of cerebro-spinal fluid pressure. Cerebro-spinal fluid pressure does not necessarily indicate increased intracranial pressure.

The neurological examination is our second great aid, and the more carefully and thoroughly this is made, the larger will be the number of accurate diagnoses. No one feature of this examination is of greater importance than a careful study of the eye fields. The obscure tumors of the temporal lobe are more often recognized as a result of a careful field examination than in any other way. After completing the history and physical, the proper interpretation is of greatest moment. The evaluation of points in the history as compared with physical findings may be the crucial deciding factor. A striking example of this was the case of a man who had all the symptoms and signs of increased intracranial pressure, headache, vomiting, choked disc, and focal convulsions. These had all developed in a few months. With great difficulty the following fact was finally developed in the history, that for the previous eighteen years he had had subjective sensations of hearing,—hear-

ing bells ringing which no one else could hear. The physical signs suggested a lesion in the motor area, but the subjective signs of hearing pointed to a lesion in the posterior portion of the temporal lobe in the auditory center. As these symptoms preceded the motor symptoms by many years, that region was exposed at operation and the tumor was removed from that region.

There are a number of symptoms and signs of brain tumor about which there still exist misconceptions. Men ask me, how can this be a brain tumor, the child has never complained of headache, or the patient's eye grounds are normal, and there is no choked disc. It is true that the majority of patients with brain tumors have one or both of these symptoms, but children very frequently have no headache, which is due to the fact that the sutures on a child's skull give way and thus intracranial pressure is sufficiently relieved to prevent headaches, or when a tumor grows very slowly it may not produce much headache, and this is also true of choked disc. When a tumor develops very slowly, there may be no eye ground changes for a very long time. Glioma cases, however, almost always complain of intense headaches and show eye ground changes.

The change, however, that has come over the profession in the diagnosis of brain tumors in the past twelve years, is quite remarkable. Whereas when I first came to St. Louis, I rarely saw a tumor case that was not nearly blind, today I see case after case that is sent because the doctor suspects a tumor, but the findings are so few and indefinite that watchful waiting is the best advice to give. When one of those cases develops a tumor, their chances of a permanent cure are very good, for they are operated upon early in the disease, and a radical cure can be effected, unless their tumor has its origin so deeply in the brain that it cannot be gotten at satisfactorily. In other words, there are still cases, at present, that, from the first day the symptoms appear, are incurable.

What is the status of the x-ray? This must be considered from two points of view, as a diagnostic and as a therapeutic agent. In diagnosis, it may help tremendously. It may clinch a doubtful diagnosis, and, in a small percentage of cases, may show a tumor shadow, but as a rule it only shows the result of intracranial pressure, convolutional markings, areas of thickening or thinning of the skull, deformities of the sella turcica. When, however, air injection of the ventricles is performed, the x-ray gives much more information, for the shape of the ventricles and the way and extent to which they are dilated may help to determine the location of a tumor. As I said earlier in this paper, it does not always give this information, so that, in my experience, the percentage of cases of localization has not been greatly increased with this new aid. When used cautiously, I feel it is a method we must employ whenever simple diagnostic methods have failed.

Very powerful x-ray, as a therapeutic agent, is the most recent addition to our armamentarium. The Coolidge tube, with the two hundred thousand volt current, seems to do extraordinary things. It stops certain gliomas from growing, or destroys what remains of them. Whether it affects all gliomas alike, I do not know. Whether it affects a permanent cure, I am not prepared to say. It seems most promising but it has not yet reached the stage that it supplants the surgery of brain tumors. At present, it should be used post-operatively, but I see no justification to use it instead of surgery.

In summing up, I feel we are justified in saying that the successful treatment of gliomas of the brain is distinctly more promising. The increasing success depends on early recognition of the case. The most valuable diagnostic methods still are the neurological history and physical. X-ray and air injection are valuable further aids. The permanent cure is possible by radial surgical methods combined with deep x-ray therapy.

INFANT FEEDING SIMPLIFIED FOR THE GENERAL PRACTITIONER*

MAURICE L. BLATT, M. D.
CHICAGO

2,620,000 children are born alive in the U. S. every year. 199,000 or nearly 8 per cent die in their first year, 109,000 of these dying in their first month.

Those dying in the first month do so as a result of congenital defects or obstetrical injuries. Their deaths are not intimately related to the problem of infant feeding. The physical health and the future economic and military value of

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[1]Louis T. Dublin; Am. Journal Hygiene, .3.211, May 1923.

the 2¼ million alive after the first month is distinctly our responsibility. No single factor is of such paramount importance in the production of the highest social efficiency as is the proper feeding of these infants.

Its mother's milk is the best food we have for the new born. If it is obtainable in sufficient quantity, the child will be subjected to one-seventh as great a risk of death as is its bottle fed brother. Digestive disturbances are rare and easily cleared up, in the breast fed. It has a greater immunity to infectious diseases and these, if acquired, are less severe. Rickets, scurvy, and beri-beri occur very infrequently in this group and when they do, are usually mild.

The new born should be nursed at four hour intervals, six feedings daily from birth. Weaklings and prematures may need the interval shortened to 3 and in some cases 2 hours. Failure to gain in weight after the 10th day in normal infants signifies insufficient food. The child will not gain on less than 2 oz. of milk per pound of body weight per day. Determine the amount of milk the child is nursing by weighing before and after every feeding for several succeeding days. Breast milk may be increased by nursing both breasts at each feeding. If this does not produce sufficient secretion, the nursing should be following by a complemental feeding sufficient to bring the amount up to normal. Always feed the bottle after the breast and never give water within one hour of nursing time. Do not replace a breast feeding by the bottle until the child is three months old, then do so. This gives the mother greater freedom and makes nursing less burdensome; the mother will nurse her child longer under these circumstances. The ease with which weaning may be accomplished, when desirable, if this plan is followed, is surprising. The earlier a child is given the bottle, the less difficult there is in having it change from breast to bottle. Furthermore, there is an advantage in being assured that should artificial feeding be necessary, it would be well tolerated. A serious effort should be made to keep every infant on mother's milk until it is nine months old. If there is only as small an amount as one-half ounce of milk obtained from the mother at each nursing, the child should not be weaned but should receive this, followed by a complemental feeding.

Serious disease in the mother or total lack of her milk necessitates artificial feeding. In the majority of children, this is readily accomplished by a simple milk formula based upon the following data:

1. An infant will take at least 2 ounces more food at each feeding than it is months old, i. e., a child of two months will take at least four ounces at a feeding.

2. Boiling milk for two minutes makes the casein curd smaller.

3. The dilution of milk by either plain water or cereal gruels makes it more easily digestible.

4. The minimal amount of milk necessary for a child each day is one and one-half ounces per pound of body weight, i. e., a child weighing ten pounds needs fifteen ounces of milk per day to thrive.

5. All well infants may be put on this minimal allowance to start, and none should be given more than this amount until the milk tolerance of the individual is determined by experiment.

6. One-tenth ounce of carbohydrate is required per pound of body weight per day. It should not be added to the milk mixture until the tolerance for cow's milk has been established by several days' feedings. It should then be added to the formula, and the amount increased every second day until the desired proportion is reached. The dextromaltose preparations give the most uniformly good results, but other sugars may be used.

7. The best results with infant feeding are obtained by weekly increases as the child increases in weight. If the child is gaining six ounces per week, an increase of one ounce of milk and one teaspoonful of carbohydrate is the usual amount. Decrease the water as the milk is increased after the total of a single feeding reaches eight ounces.

The amount of formula for a day's feeding is determined by multiplying the age in months plus two, by the number of feedings per day, i. e. a baby three months old will receive in its five feedings twenty-five ounces. The milk constituent will be one and one-half times the infant's weight in pounds. If it weights ten pounds, it would receive fifteen ounces.

The carbohydrate element will be made up of one-tenth ounce of sugar per pound of body weight, in this instance one ounce.

Such a formula contains 315 calories, as milk (milk is estimated at twenty-one calories per

ounce) and 120 in carbohydrate—a total of 435 calories or forty-three per pound—a low limit as a starting point. Children at this age need at least forty-five calories to gain.

In all artificially fed children, it is wise to feed phosphorized cod liver oil beginning at the third month. This is best given emulsified with equal parts of malt extract so that each teaspoonful contains 1/200 gr. of phosphorus and ½ dr. of oil. It should be given three times daily, always after feeding. Orange juice, beginning with one teaspoonful and increasing one teaspoonful per week until the juice of a whole orange is included in the daily ration, should be started at this time. It is best given before the morning bath. A new article of diet should not be added until one is sure the previous addition is well tolerated.

Spinach, carrots, green beans and peas may be added during the third month. They must be boiled well and forced through a fine sieve. Start with one teaspoonful before the 2 p. m. bottle, and increase slowly. Cereal should be started in this month. It should be fed after the orange and before the bath. The fine wheat cereals are the best. One hour's cooking is essential. It, as well as the orange juice and vegetable should be given by teaspoon. This is the beginning of the child's education, which has as its final object the proper use of spoon, fork, and finally knife.

Stewed fruit, either prunes or apples, forced through a sieve, may be fed before the 6 o'clock bottle, anytime after the third month, if the child sits up alone. This, in addition to food value, teaches the child to handle solid food.

The child of eleven months, weighing twenty pounds has a daily feeding schedule approximately this:

6:00 A. M.	Eight ounce bottle.
9:00 A. M.	Four teaspoons orange juice, five tablespoons cream of wheat. This is before the bath.
10:00 A. M.	Eight ounce bottle.
2:00 P. M.	Four tablespoons of one of the following vegetables: spinach, carrots, peas, green beans, four tablespoons soup if it is customarily used in the household. Eight ounce bottle.
6:00 P. M.	Two tablespoons baked potato, two tablespoons stewed fruit, one zweibach. Eight ounce bottle.
10:00 P. M.	Eight ounce bottle.

The slightest indication of diarrhea necessitates the withdrawal of carbohydrates from the milk and of all other food but the milk—water dilution. Severe diarrheas are best treated by using protein milk based on Finkelstein's Eiweis Milch. There are a number of these on the market. When the stool is again normal, slowly return to the previous diet.

Never feed more than one quart of milk daily. Additional calories for babies weighing more than twenty-one pounds are easily made up by adding semi-solid food.

SUMMARY

1. Normal infants gain well and have the minimum of gastro-intestinal disturbance on mother's milk or mother's milk plus complemental feeding.

2. Artificially fed infants thrive on formulas based upon an initial feeding of one and one-half ounces of milk and one-tenth of an ounce of carbohydrate per pound of body weight, made into a milk mixture, by diluting with water, the total of daily feeding equalling the age in months plus two, times five ounces. Most infants require slightly more than this to gain, the younger the infant the more its caloric need.

3. Phosphorized Cod Liver Oil, orange juice and iron bearing vegetables are essential for artificially fed and desirable for breast fed infants.

THE SURGICAL ASPECTS OF CHRONIC PANCREATITIS*

FRANK D. MOORE, M. D., F. A. C. S.,
CHICAGO

In considering the various conditions which make up the surgical pathology of the upper abdomen, one of the most important and probably, also, the one most elusive of recognition, is that of pancreatitis, especially in its chronic state. The wide field of gall-bladder pathology, of ulcers of the gastro-duodenal tract, with their possibilities of perforations and other complications—these have been much discussed and investigated and while it cannot be said that as yet our knowledge of these conditions is near completion, still our comprehension of their pathology is much greater than is true of the pancreas.

It is within the last two decades that any ex-

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tensive investigations of the pancreas have been undertaken, and these have been largely only of its physiological and bio-chemical aspects. The pathological conditions to which it is subject are, in part, known to us, but much is still to be learned and we may almost say that the surgery of the pancreas is in its infancy, inasmuch as direct surgery of that organ has been very little attempted and has consisted largely in drainage in acute inflammatory or other emergency conditions.

There are, undoubtedly, very good reasons why the pancreas has been overlooked, while other abdominal organs have been more thoroughly investigated. Its diseases are not easy of diagnosis, and the comparative inaccessibility of its position, lying as it does almost entirely retroperitoneal, does not make for exploratory operation unless the need seems imperative. Likewise as to pathology, even cases of known pancreatic disease show little at autopsy, because of rapid postmortem changes in the organs.

The surgical aspects of pancreatitis, so far as our knowledge now extends, are always bound up with those of some other pathology of the upper abdomen, and in a vast majority of cases, this pathology is that of the gall-bladder and biliary passages. To what further fields we may be led by future investigations, is not now to be stated or even more than conjectured, but at present surgery of the pancreas deals largely, both as to etiology and association, with the pathology and surgery of the gall-bladder.

In considering this we have, first of all, to consider briefly the physiological and anatomical relations between the pancreas and its surrounding structures, also with the gross pathology,—that we may best determine the truest surgical aspects of the problem and the best of the present known methods of treatment.

As the pancreas lies directly behind the stomach and is largely a retroperitoneal organ, it is not easy or definite of palpation. Its head lies in close relation with the duodenum and the common bile duct. Its body is posterior to the stomach and the tail is in contact with the spleen and the splenic flexure of the colon. With this anatomical location, and with the fact that epigastric pain and tenderness are symptoms, not only of inflammation of the pancreas but of inflammatory conditions of any of the other structures just mentioned, it can easily be seen how misleading and difficult of diagnosis it may become. This same location, together with the richness and free anastomosis of its lymphatic system makes very evident and logical the fact that pancreatitis is nearly always found in connection with pathology elsewhere among its neighboring organs and, probably, in the majority of cases, this pathology is secondary. This we deduce from the facts,—first, that at autopsy pathologic conditions such as might have existed previous to death, are rarely found, especially those conditions which could have existed long enough to produce secondary and often chronic secondary conditions in other organs. Secondly, because all of the conditions which are so frequently found in connection with chronic pancreatitis are even more often found independently of any recognized pancreatic pathology, while the pancreatic condition is never found independently of another and easily possible primary condition.

We may assume, then, in the light of our present knowledge, that at least the majority of cases of both acute and chronic pancreatitis are secondary in origin. We can next consider the main pathological aspects of the pancreas and the most important conditions which seem to give rise to it.

First, as to the pathology: much of the pathology of the pancreas arises from disturbances of its own secretions, even those disturbances or improper activations of its enzymes which are caused by agencies from outside the gland. The secretions of the pancreas are, perhaps, the most powerful in their action of those of any glandular organ of the body, especially the trypsin or proteolytic ferment and the steapsin, or fat-splitting enzyme. To the misdirected activities of the latter is due the fat-necrosis which is so typical and so pathognomonic of acute pancreatitis, but to the first are due the production of toxins, which make acute pancreatitis so severe and often a fatal condition.

Of the endocrin secretions of the pancreas, we know little as yet, save that they control the carbohydrate metabolism of the body, and that glycosuria and diabetes mellitus may follow upon a sufficient inhibition of its activity.

There are many theories expounded as to the pathogenesis of pancreatitis disease and in all of them, the condition is assumed to be secondary to pathology elsewhere. A few of these

theories are mechanical and assume the pathology to be due to a mere mechanical irritation by the bile as it is forced back into the pancreas through obstruction of the ampulla of Vater. Another assumes mechanical pressure from without, from stones, new growths within and without the gland, etc., to cause degeneration of the glandular substance and subsequent disturbance of secretion.

More commonly accepted, however, are the various theories of infection, and these are, in turn, divided as to source and mode of entrance. Of these, one theory assumes that all bile which becomes stagnant, or which does not flow normally through its ordinary channels of outlet, is infected, and that it is this infection or the presence of bacteria in the bile, which is retrojected into the pancreas through increased pressure in the bile ducts, which sets up inflammatory conditions in its recipient, rather than the mechanical or chemical irritation of the bile itself.

Another theory assumes the regurgitation of duodenal contents through the ampulla of Vater into the pancreatic ducts. These theories imply a direct injury to the pancreatic tissue.

Besides these, there are many cases which are undoubtedly due to infection, which must enter by some other route than by that of obstructed bile. These cases include lesions in other parts of the abdomen, gastric or duodenal ulcers, chronic appendicitis, renal or hepatic abscesses or any of the infections of the biliary tract. In these cases, the question is that of the route which the infection follows in entering the pancreas. It may, in some instances, be hematogenous, as when it occurs in cases of acute infectious disease, and in some, extension from direct contact, as in any form of retroperitoneal abscess, but undoubtedly the main avenue of access is through the lymphatic system with which the pancreas is so richly supplied and which anastomoses so freely with those of neighboring abdominal structures.

Especially in chronic pancreatitis does it seem that a long continued infection through the lymphatics takes place from chronic conditions of the pylorus, duodenum, appendix or colon, and this is, in fact, one of its most important surgical aspects, for here is where much can be done in the way of treatment.

Pathologically, chronic pancreatitis may be either an interlobular which involves mainly the externally secretory part, or it may be interacinar, in which it is associated with disturbance of the carbohydrate metabolism of the body. Either or both of these conditions may exist, and often for a long time, without symptoms sufficient to attract attention to the pancreas.

The symptoms of chronic pancreatitis are not definite and it is this very lack of a definite syndrome which makes its diagnosis so often difficult. An acute pancreatitis is much more easy of diagnosis, but of course, often only when the stage of disease is very far advanced. On the other hand, the symptoms of chronic pancreatitis are often those only of the associated lesion, or at least, only those which can readily be ascribed to that condition, and most frequently that condition is some lesion of the biliary tract, particularly cholecystitis with or without stones. In the cases cited in the literature, between 70 and 80 per cent. were associated with cholecystitis and in fully 70 per cent. of these with calculi.

The surgery of the pancreas is preventive surgery, and the surgical treatment, we may say, is always the treatment of the primary focus of infection. Drainage in cases of acute inflammation or abscess formation of the pancreas is practically all that has been attempted as yet, as direct curative surgery of the pancreas has not yet been proven feasible.

The preventive treatment, then, becomes all important. Early recognition and treatment of gall-bladder and biliary tract disease will often do away entirely with the necessity for pancreatic surgery in the individual, as well as with the vastly greater risk to the patient, from the toxemia and shock which invariably accompany the attack of acute pancreatitis which may result from the presence of calculi in the ducts. For the sake of prophylaxis, then, cholecystectomy has been shown to be vastly more effective than cholecystostomy, because of its much smaller percentage of recurrences. When, however, the pancreatitis is so severe and the condition of the patient not such as to indicate a total removal of the gall-bladder, prolonged drainage relieves the intra-pancreatic pressure and thus gives it a chance to throw off the infection.

Summary: To summarize, then, we may draw the following general conclusions:

1. Pancreatitis is, at present, an often unrecognized disease, particularly in its chronic

form, because of its difficulty of diagnosis and its inaccessibility for operation.

2. Pancreatitis is, in at least the vast majority of cases, a secondary condition. It may follow lesions anywhere in the digestive tract, especially peptic ulcers, chronic appendicitis, etc. It may be hematogenous, from acute infectious disease, or its origin may be through the lymphatic system, but in by far the majority of cases it is secondary to gall-bladder disease.

3. The present conception of pancreatic disease is that of an infection from without, and any controversy which now exists is that of the pathogenesis or mode of infection, as the important question. The majority now believe it to be mainly lymphatic.

4. The treatment of pancreatitis is the treatment of the primary focus of infection and the preventive treatment is especially important because the secondary pathology is often much worse than the first. This fact is a strong argument for early treatment and, if possible, removal of the existing pathology or cause.

5. Pancreatitis is usually secondary to, or associated with, cholecystitis so that the question of gall-bladder surgery becomes of great importance, particularly the relative merits of cholecystectomy and cholecystostomy. I have endeavored in previous papers to point out the greater advantages of total removal of the gall-bladder, rather than simple removal of the stones with drainage. The end-results are better. There is a much smaller percentage of recurrences, and the future risk to the patient is indubitably less. I wish, therefore, in closing, to make a further plea for early recognition and surgery, not only in cases of pancreatitis, but also in those cases of chronic cholelithiasis, to which pancreatitis is usually due, and further, that cholecystectomy rather than cholecystostomy be the operation of choice in the surgical treatment of chronic pancreatitis.

30 N. Michigan Avenue.

DISCUSSION

DR. WILLIAM M. HARSHA, Chicago: Dr. Moore's paper is a most commendable plea for anticipating disease of the pancreas and preventive treatment by eliminating those things which are now known to cause pancreatitis. Few of us have made a diagnosis of disease of the pancreas except in the acute type of pancreatitis and when we make that diagnosis it is very often too late to help the patient. In the evolution of abdominal surgery those of us who recall the early treatment of appendicitis will remember that the treatment was limited to the evacuation of peri-appendiceal abscess. Then we began to treat the cases earlier until now we believe in taking out the appendix before there is a lot of pathology involving it. The same thing has been true in regard to gall-tract surgery. At first we used to make a diagnosis of gall-bladder disease when the patient had jaundice and was in a bad state for operation. Then after a while we began to find there were earlier symptoms that were quite marked of gall-bladder disease and the result is that now we try to find gall-bladder symptoms early and operate on them. The same is true of ulcer of the stomach. Early diagnosis of ulcer gives a chance to those who believe in medical treatment. It is only by such a plea as Dr. Moore has made that we will get anywhere with disease of the pancreas. Possibly we will be able by blood chemistry and blood changes or other symptoms to detect early changes in the pancreas but at the present time surgery of the pancreas is limited largely to those acute attacks which are ordinarily only treated by drainage, sometimes only of the peritoneum and sometimes of the pancreas.

As to the manner of infection of the pancreas, I think by analogy we may conclude that as many diseases of kidney and gall-bladder infections are most likely to be through lymphatic routes, the same is true of the pancreas.

As to the choice of cholecystectomy or cholecystostomy, I still am old-fashioned enough to believe that it should not be arbitrarily decided, that each case should be a law unto itself and it should depend on the judgment of the surgeon when he sees the field. There are cases in which the adhesions around the gall-bladder are very dense and its would seem unnecessary to take out the gall-bladder except for that one thing. Because adhesions form so extensively in some patients, is a reason for doing cholecystectomy, even though there is little pathology in the gall-bladder itself.

DR. C. C. O'BYRNE, Chicago: I was much interested in Dr. Moore's paper. There is just one thing I want to take up, that is the question of cholecystectomy and cholecystostomy. I think there are many cases of pancreatitis in which there is a distinct advantage in not removing the ball-bladder because we can drain the pancreas by draining the gall-bladder. You are not removing all the disease when you remove the gall-bladder and you are removing all possibilities of drainage. We know in a large number of cases of pancreatitis if you remove all tension by drainage of the common duct into the gall-bladder you are draining the pancreatic ducts. You can remove irritants in the pancreatic ducts by draining the gall-bladder and so you have made a mistake by removing the gall-bladder and tying off its duct. You can drain the pancreas through the gall-bladder and if I am certain from the cases I have handled the advantage of cholecystostomy over cholecystectomy is that you can drain the pancreas through the gall-

bladder and when you remove the gall-bladder you remove the possibility of drainage.

In the second place, the number of recurrences,—I do not believe you need get 1 per cent of recurrences in gall-bladder infection or stones in cases drained. I believe we take out too many gall-bladders. You remove a stone that is blocking the duct, take it out and the gall-bladder will atrophy and the stone will not reform. It is much more of a surgical operation to do a cholecystectomy than to do a cholecystostomy. It is doing unnecessary surgery. If the gall-bladder is diseased to a very marked extent, I have operated on many cases in which I was afraid to take out the gall-bladder, where the wall of the gall-bladder was badly involved and the gall-bladder was full of pus. If I removed such a gall-bladder I do not think I would have saved my patients, whereas I did save them by simple drainage. If there is practically no disease in the gall-bladder, but simply a stone mechanically blocking its duct, I see no indication to remove the gall-bladder. There are few gall-bladders moderately diseased, as Dr. Harsha has said, with many adhesions showing that the gall-bladder has been constantly causing protective inflammation about it.

DR. A. P. HEINECK, Chicago: Dr. Moore's paper emphasizes three important facts:

1. That our knowledge of inflammatory, neoplastic and degenerative diseases of the pancreas is inadequate and calls for extended experimental and clinical study.

2. That the difficulty of recognizing acute pancreatitis and differentiating it from other acute inflammatory conditions of the upper abdomen, applies with equal force to chronic pancreatitis.

3. That the main etiological factor of chronic pancreatitis is the existence of disease in a neighboring organ (usually the biliary system) which secondarily involves the pancreas by continuity or contiguity of tissue, and by way of the lymphatic vessels. We must not underestimate the importance of the lymph-channels both in the transmission of infection and in recovery therefrom. Thus, ulcers of the posterior walls of the stomach may form an excavation into the body of the pancreas; thus, the frequent co-existence of cholecystitis and cholelithiasis and pancreatic disease.

There are two types of chronic pancreatitis: One involves the interlobular septa and the parenchyma of internal secretion and the other type mainly involves the islands of Langerhans and the secretory tubuli. The latter is the type usually associated with carbohydrate metabolism which in primary cases develops into diabetes. Interlobular pancreatitis is usually concerned with digestive disturbances.

We will lessen the occurrence of chronic pancreatitis by advocating and practicing the early surgical cure of gall-bladder disease, of duodenal and gastric ulcers. In all cases of chronic pancreatitis, the biliary passages should be explored and routine drainage of the bile passages instituted.

DR. FRANK D. MOORE, Chicago (closing the liscussion): In talking with Dr. Ochsner the other day he told me I need not write any more about cholecystectomy, for they were all doing it now. Whether he was tired hearing about it and thought everybody else was, I do not know.

Answering Dr. Harsha, I thought I made it plain in my paper that while I favored cholecystectomy in most cases, yet every case should be a law unto itself and the choice of operation left to the judgment of the surgeon.

Answering Dr. O'Byrne, the simple removal of gall-stones from a gall-bladder is not dealing with the real pathology. Gall-stones are merely a terminal condition or symptoms of an infected or diseased gall-bladder, and any operation other than cholecystectomy at best is only palliative, leaving a pathology remnant behind, thereby establishing a vicious circle as it were between the gall-bladder and the pancreas, which is easily understood when one considers the close anastomosis between the lymphatics of the two organs.

ANNULAR CARCINOMA OF COLON PRESENTING AN UNUSUAL SYMPTOM-COMPLEX

E. C. KELLY, B. S., M. D.

PEORIA, ILLINOIS

A female patient, aged 48 years, who had been treated for six months for costiveness by enemata and olei ricini, came for diagnosis August 3, 1923.

The patient complained of periodic attacks of pain in right iliac region associated with nausea and vomiting. The first attack began six months ago, and persisted for three or four days. Every two to five weeks she complained of a similar syndrome. She was costive, never passed blood per rectum, vomitus did not contain any blood, lost twenty pounds in weight and became fatigued easily. During these periods she vomited 2-3 hours after eating. Pain was always confined to right side and was cramp like in character. Between attacks she had a period of comparative freedom from all symptoms. Family history was negative. She has had two children, 11 and 15 years, and one miscarriage. Climacteric at age of 37.

The examination revealed a poorly nourished dark complexioned woman of 48 years of age. No palpable cervical glands, lungs and heart normal, and blood pressure 120—80.

The reflexes were normal, the mucous membranes showed slight anemia, and abdominal examination revealed some diffuse tenderness in right iliac region with no rigidity. There was no tenderness in the upper abdomen. At times

a mass could be palpated in the upper left quadrant. Left inguinal hernia present. Vaginal examination while lying on back, either side, or in the erect position, revealed nothing except a cystocele and rectocele. Rectal examination was negative. Temperature 98.6. Pulse 80.

On analysis of urine, a few granular casts and a few pus cells were seen.

The gastric analysis was negative. Wassermann, negative, no occult blood in stool.

Hemoglobin, 70 per cent; red blood cells, 4,752,000; white blood cells, 7,600.

Morphology—very slight anicytosis; no nucleated red blood cells.

Differential:	Pct.
Lymphocytes, Large	7
Lymphocytes, Small	22
Polymorphonuclear neutrophiles	57
Basophiles	1
Eosinophiles	7
Transitionals	6
	100

Gastrointestinal x-ray examination revealed a point of obstruction in the distal part of the transverse colon with very marked colonic delay of more than 96 hours. The colon above the constriction was markedly dilated. On rectal examination, the examining finger coated with barium, under fluoroscopic control, could not touch the mass.

Ovarion cyst, fibroid on pedicle, floating kidney, chronic appendicitis, cholelithiasis, gastric disease, nephrolithiasis, were thought of, but ruled out on clinical evidence associated with other instruments of precision. Because of age, loss of weight, secondary anemia, delayed vomiting after eating, costiveness, palpating of small mass in left upper abdomen correlated with laboratory work, a diagnosis of annular carcinoma of transverse colon was made.

The patient was operated on and a Mickulicz in three stages was performed. One foot of bowel of the distal part of the transverse colon was removed with three or four mesenteric glands which showed metastasis.

The patient, after convalescing from the operative procedure without formation of a fecal fistula, was given deep x-ray therapy and sent home.

Microscopic examination of a slide made from tumor showed an adenocarcinoma.

An interesting fact is that this patient showed an eosinophilia of 7 per cent, a finding which might possibly support the parasitic theory of cancer origin.

This case is particularly interesting from a diagnostic standpoint, because all of her symptoms were referred to right abdomen instead of left abdomen where the pathology was located.

THE HOSPITAL—ITS PROBLEMS*

CHESTER V. DECKER,
Superintendent of Toronto General Hospital,
TORONTO, ONTARIO

Since we are to consider the hospital it would seem fitting to define a hospital.

You have doubtless heard many definitions of a hospital which I am sure would describe it more elaborately and completely than the definition I have in mind for the purpose of this discussion. Webster defines it as "An Institution or place in which sick or injured are given Medical or Surgical care." Correct, as far as it goes, but extremely mechanical and omitting the vital factor—interest. I have, however, chosen to define a hospital as a group of citizens who, prompted by altruistic motives, join together in an endeavor to meet certain community needs.

A hospital is neither a geographical location, a pile of bricks and mortar, or even an administrative machine. It is essentially a group of human beings organized to perform a human service. A steel company, for example, exists first in the brain of an individual and then in a group of directors perhaps long before a single blast furnace is erected. So a hospital lives, first in the imagination of some individual, then in the hearts of a group of men and women, the first board of trustees, and finally is incorporated in buildings, staff and organization. The essential elements in a hospital are all human and the chief difficulties which have to be faced by a board of trustees are those which arise out of human factors. The success or failure of any great enterprise is largely dependent upon the manner in which the directors face the innumerable problems confronting them. So it is with the hospital, its success, in the final analysis, depends upon how the trustee board meet their various problems.

Having joined together and organized to meet

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certain community needs, let us consider what these needs are. To be sure we will require suitable building or buildings designed and fully equipped with every facility for caring for and treating the sick and injured of the community. The matter of providing buildings and equipment would, at first sight, seem to involve only difficulties of a physical and financial nature. Yet anyone who has ever been responsible for the choice of a hospital plan and the concrete carrying out of the plan finally settled upon, knows that the chief difficulties are those involved in human psychology.

The buildings and equipment are an indispensable pre-requisition of operation, but both before and after these are provided the difficulty of adapting these to the needs of the various sections of society faces the board of trustees.

It is easy to provide families with over $10,000 income with suitable hospital service. It is also easy to provide families with $1,000 income, but what about the family with $2,000, $3,000 or $4,000 income, which can neither accept charity nor pay for private service. Thus we have before us the problem of providing suitable accommodation for the several classes of the community.

Again the hospital may be in a university town. Immediately confronting the trustee board is a demand from the university element for teaching facilities within the hospital, and cognizant of the importance of clinical instruction in the teaching of medicine and surgery to students, the board of trustees accept this as one of their obligations to the community. University interests may demand a closed hospital, or they may demand only a partially closed hospital. In either event there is inevitable friction, hard feeling on the part of the medical men not on the staff, criticism from some patients who find that their own physicians cannot follow them into the hospital, and, more or less, wide charges that the interests of the hospital have been sacrificed to the university. If we are to expect our university to be successful in medical education we must give it perfect freedom in rounding out its medical educational program as it involves the hospital.

Again the matter of appointments to the hospital staff is one which does not make the trustees' burden the lighter.

These are a few of the problems of general policy which face the board of trustees of a hospital. The hospital with which I am best acquainted is the Toronto General Hospital. It may interest you to know of how its board has tried to solve some of its major problems. I do not attempt to suggest that the methods worked out in connection with the Toronto General Hospital are the best possible. I simply offer them for what they may be worth as a contribution to the general problem.

We have in the Toronto General Hospital a 760-bed hospital very closely associated with the medical faculty of the University of Toronto. All of the problems which I have cited confront us. We have set aside in the interest of a certain class of the community 82 private rooms, with rates ranging from $4.75 to $9.00 per day—the charge for suites is $17.00 per day. Generously considering the man of moderate means we have set aside 97 beds under the semi-private service, the rates are $3.50 and $4.00 per day. This accommodation is open to the profession at large and, as long as hospital rules and regulations are respected, the hospital does not, in any way, interfere with the treatment of these cases. To meet the demand of the profession, and also out of consideration of another class of the community, we have set aside 42 beds under the classification of semi-public accommodation for the use of the general practitioner not on the staff of the hospital. This accommodation is offered at a rate of $2.75 per day which is considerably less than the cost of the public ward service. It is intended to meet, or at least in part meet, the needs of the outside profession who have patients unable to pay the semi-private rate, but who are not willing to submit themselves to clinical investigation and who wish to retain their own physician.

In addition to this we have a building devoted entirely to emergent surgery where the patients are given first aid on admission, pending the arrival of the patients' physician who is called with the least possible delay. The patient's physician may treat such emergent cases in the Emergency Department. When it becomes safe to move such patients they are transferred to the proper service in the hospital.

Two hundred forty-one beds out of a total of 760 are open to the profession at large, the re-

mainder consists of public ward teaching service which is under the direct control of the hospital and its own appointed staff and is used for the clinical instruction to medical students. No outside physician may interfere in any way whatsoever with the treatment of patients assigned to this service. We do, however, welcome the presence of the outside physician at the time of operation upon patients whom he has referred to the hospital, and at clinics, if the case is one of special interest to him.

We have then in this way met the demand for the several classes of accommodation expected of us. We have, in part, met the demand of the profession at large—that it be permitted to follow its patients into the hospital. We have amply provided for uninterrupted clinical instruction to the medical student and, in my opinion, have met in reasonable proportions, the several community needs of a hospital.

With reference to the question of appointments to the hospital staff. I do not need to tell you that this is a source of great worry to the average trustee board and often the cause of much feeling on the part of some aspirants to hospital appointments. Hospital appointments should be protected in every way against prejudice, partiality and political or financial influence. The hospital staff physician must be highly qualified, not only as an instructor and demonstrator, but as one competent in giving the best possible treatment to the cases in his care. However, the University is very much concerned in all staff appointments and should have an opportunity of discussing the merits of the respective applicants. For this reason we may well ask the University to name a limited committee —say, three or four University representatives, forming a committee on staff appointments. All applicants may then apply or may be recommended to this joint committee of the University and the hospital. This committee receives recommendations and applications and considers them entirely upon merit, and as a committee makes recommendations to the hospital trustee board, placing before them, with their recommendations, a record of the qualifications of each nominee. Their report is received and carefully considered by the whole trustee board who may safely make hospital appointments from this list. By this method you often save an individual hospital trustee or governor of the University from embarrassment when they are approached by influential friends. They are in a position to say that they alone have no power in the matter, that appointments are made in the way which I have just described.

We have been dealing with problems of policy. Let us consider infernal problems involving the relation of the profession to administration.

One of the greatest problems of every hospital executive is the promotion of understanding between administration and profession. It is difficult to successfully impress upon the profession the fact that the board of trustees, which is, in the final analysis, the management and the financial support of the institution is imbued with an honest desire to serve. This is, in fact, their sole motive for engaging in this field of philanthropic endeavor. With this in mind then it is only reasonable to assume that they are not only desirous but keen in every possible opportunity of improving their hospital service. The only compensation which they can derive from their service to the institution is the feeling of satisfaction which goes with the knowledge of having performed a humanitarian service in a highly efficient and commendable manner.

Years of experience enables the trustee board ofttimes to anticipate the final outcome of many schemes and agitations, sometimes involving a change in organization or system, and sincerely believing in their conclusions cannot always acquiesce with the wishes of the profession or some particular faculty of the profession. Again, more often, lack of finances will not permit them to immediately respond to advocations or requests from their professional staff. It is then on such occasions difficult to impress upon the profession that it is not through any lack of sympathy in the work, but for reasons far beyond the control of the board or because it is not in the best interests of the whole plan that various requests cannot be met. Such lack of understanding is very often due to the failure of the board or the chief executive of the hospital to meet such situations in a sympathetic and tactful manner. Since all those engaged in hospital work have common interests at heart a policy of "cards up," pursued over a period of time, is bound to

promote a better understanding and feeling between the administration and the profession.

It has often been said that an institution, such as a hospital, must be governed by an iron hand. It depends entirely upon the interpretation of "iron hand." If ruling with an iron hand is interpreted as meaning, in an autocratic manner, then the institution involved had better find a new way to govern its affairs. Strict execution of tried and proven principles and the adherence to sound systems are essential. There must, however, exist on the part of the trustee board or the executive officer of every such institution a willingness to receive individuals or deputations upon any subject whatsoever. It is the duty, and usually within the scope of the competent and experienced executive to listen sympathetically and to reason with such individuals or deputations to the point of amicable adjustment or solution of the problem at hand.

For instance—the radiologist appeals to the superintendent for the purchase of certain additional major equipment. He would like to meet this request without delay but is mindful of a long list of other important necessities. The pathologist has six months before made known his needs involving considerable outlay of money. The surgical staff have called attention to the desirability of improving the lighting system in the operating rooms. Medicine has long felt the need of laboratory accommodation or a metabolic kitchen under efficient direction. There is a long list before you. These are matters which may well be discussed with your medical advisory board, to which I shall refer in a moment. To merely say no, is not enough and promotes ill-feeling between administration and the profession. Far better to say, "Gentlemen, as you know, our finances are limited and our demands numerous; here is a list which I have had before me for some time. I have at my disposal $..... Let us consider how it shall be spent so as to meet the most urgent hospital needs."

In many hospitals the professional staff does not receive proper recognition. If they are to be held responsible for the professional treatment of the patients the hospital should give audience to any suggestions or grievances which the profession, as a whole, may have. There should be in every hospital a committee representing the professional staff. This committee should meet periodically, not less than once a month, for open and frank discussion on matters concerning the professional service within the hospital. If this committe has suggestions to make or criticisms to offer let them submit such to the superintendent in writing or at a meeting to which the superintendent may be invited for the purpose. If amicable adjustment of such problems or differences is not reached by this means then this committee should have access to the trustee board at its first next regular meeting.

In the case of the Toronto General Hospital the advisory board consists of the heads of the several departments, that is, surgery, medicine, oto-laryngology, gynecology and obstetrics, anesthetics, radiology, in fact, every faculty interested is represented. As the trustee board meets on the third Wednesday of each month, the advisory board meets on the third Monday. Thus, any proposal made by the advisory board which requires the consent of the trustees may be dealt with without delay.

As a hospital is not operated for profit and is seldom, if ever, in possession of surplus operating funds, there is no business in which it is so essential that a dollar go the full distance. This responsibility rests with the business management. Volumes could be written on this subject—time will not permit me to deal with it in this paper. I will, however, at the request of Dr. McMechan, give you one or two instances which will illustrate how savings may be effected in the average hospital. Every artisan hand in the employ of the Toronto General Hospital is made to work to a schedule. He is given a time sheet to be filled in by him and handed to his chief, upon which he specifies the time spent on each job assigned to him during the day. On the back of that sheet he records the materials used by him on the job. When time and material are extended we have the cost of the job. These reports are checked with the work done and the superintendent must be well satisfied that the work was done at a considerable saving over the lowest contract tender for the job. I have in mind a painting job which tenders were asked for. The lowest tender quoted an average of $35.00 per room, our own painting department tendered on the same job

at $22.00 per room. The work was completed at an average cost of $19.60 per room.

Again, too often, the requisitioning of supplies is entrusted to those who have charge of the distribution and who are responsible for the economical use of such supplies. Under our system each department's daily or weekly requirements are carefully worked out and at specific intervals a report of stock on hand goes to the department from whence the supplies are issued. For instance: In a service pantry serving sixty patients, the pantry nurse does not requisition for her daily supplies, but rather reports to the dietary department the number of patients she has that day and gives an inventory of the supplies on hand. The dietary department then orders on the stores to send the necessary supplies to the various service pantries. Under this plan we feel that we have a closer check on our supplies and we encourage economical distribution. In conclusion, I should like to say a word regarding the hospital staff and its obligation to the hospital:

The staff of every hospital owes at least one thing to the hospital—that is loyalty. This, regrettably, the hospital does not always enjoy. Whatever ambitions the staff may harbor concerning the hospital, realization is, for the most part, dependent upon the good will of the community which the hospital serves. Practically every dollar for expansion or new major equipment is acquired through personal canvas by members of the trustee board, among their friends or prominent citizens. You may well imagine the feeling of a trustee who learns from a prospective subscriber that his inclination to support the work of the hospital has somewhat changed as the outcome of an interview with a member of the hospital staff. This has happened and too often. It is not always deliberate on the part of the individual who leaves this impression but may be attributed to some grievance which the individual holds and which he is voicing at every opportunity. The professional staff may very often assist the trustee board by telling of the good work the hospital is doing and that it would undoubtedly do more were it not hampered by lack of finances. I am glad to say that in our institution, not infrequently, through the good offices of some member of our staff, we receive donations and bequests, either marked for specific purpose or to be used at the discretion of the trustees.

EDWARD MEAD, M.D., THE PIONEER NEUROPSYCHIATRIST OF ILLINOIS*

1819—1883

GEORGE H. WEAVER, M.D.,

CHICAGO

During the study of the earliest medical schools in and near Chicago, I came upon a group of remarkable medical men, several of whom have received but scant mention in local history. Among these was Edward Mead. His valuable and far reaching services to Illinois were performed during a residence of ten years, then he left the state and most of the records of his activities were quickly effaced. What I have been able to learn of him is here presented in the hope that it may interest others as much as it has me.

Edward Mead was born in Leeds, Yorkshire County, England, March 21, 1819[1]. When 12 years of age he came with his parents to America. The voyage was made on a small sailing vessel and the landing was probably at New York. Where they located is not known. Some of the family soon came to Illinois, for five years later, in 1836, an older brother of Edward was accidentally drowned in the Chicago river. A sister later went to Iowa.

Nothing has been learned of the life of Edward Mead from his boyhood until he was nearly twenty years of age. About 1838 he began the study of medicine under the direction of Dr. Robert Thompson of Columbus, Ohio.

Dr. Robert Thompson was then 41 years of age and one of the most influential physicians in the state. He had served as State Senator and for many years was physician to the State Asylum for the Deaf and Dumb. He was one of the founders of the Ohio State Medical Society. In the stormy days when the Medical College of Ohio was torn by dissention and the schemes of politicians, he was a staunch friend of the school. It was in 1838, when young Mead was a student in his office, that the Ohio legislature established the Lunatic Asylum of Ohio at Columbus. In bringing this about we may expect that Thompson took an active part. It is quite likely that the association with Thompson at the time of the agitation for the hospital for the insane

*Read before the Society of Medical History of Chicago, December 14, 1923.

1. Notes by son, Ernest Mead, personal communication.

aroused in Mead the sympathetic interest in the insane which never failed as long as he lived.

While he was a student with Dr. Thompson his health became impaired and he made a trip through the southern states, combining some sort of business ("collecting") with health seeking. He then observed slavery at close range and the sale of slaves at auction in New Orleans specially impressed him so that he acquired a strong and lasting anti-slavery sentiment.

In 1841 he graduated from the Medical College of Ohio. He realized that his education was incomplete because of the inadequate hospital advantages afforded at the time by Cincinnati, and at once he journeyed to Europe to continue his studies.

In Paris he found such teachers of surgery as Vepeau and Nelaton. The eloquent clinical teacher, Trousseau, was 40 years of age and can hardly have failed to favorably impress the young man. In London, Wm. Ferguson had recently become professor of surgery in King's College, medicine was being taught in the London Fever Hospital by Alexander Tweedie, in Guy's hospital by Thos. Addison and Richard Bright, and in St. Bartholomew's hospital by P. M. Latham. Mead also went to Ireland, and can hardly have failed to come under the spell of the remarkable trio of Dublin clinicians, Robt. Graves, Wm. Stokes, and Dominic Corrigan.

There is no record of what studies he made of insanity at this time, but with his interest in the subject, he probably visited institutions for the care of the insane.

Upon his return from Europe he located in Cincinnati, but, urged by relatives, he soon came farther west and settled near Chicago, probably at St. Charles. At St. Charles in 1842 he married Minerva Levally Baird. From this union there were born 7 children. Of the first three, two were born at St. Charles, 1844 and 1847, and one at Geneva, 1845. Two were born "near Chicago," 1849 and 1851. The other two were born at Cincinnati, 1853, 1856. In 1859 his wife died at the age of 39 years. Ten years later a second marriage was consummated, from which there resulted two children.

During the years he lived in the country west of Chicago he carried on an extensive practice among the settlers. He was called upon to do all sorts of medical and surgical work in the primitive cabins without assistance. The roads were often only trails and travel was usually on horseback. In some seasons the mud was bottomless, and streams had to be forded. Often the cold was extreme. He had the excitement on at least one occasion of being chased for many miles by wolves.

While he was performing these arduous duties his interest in the insane never abated and he found time to put forth efforts directed toward their relief. This must have been stimulated by what he saw of the treatment of insane persons in Illinois. The insane were kept in poor-houses, often shut in small insanitary cages with heavy bars. Many were kept in private dwellings in "cabins" or "pens," sometimes chained. There were most distressing cases of persons whose limbs had been frozen, both through exposure while wandering about the country during inclement seasons and from being shut in small cells or pens, without clothing or fire to temper the cold, or to protect from storms. In some cases the cages were without floors, and the unfortunate inmates lived in extreme filth, with no heat in winter nor protection from heat and insects in summer. Dumb animals were treated with more humanity.

Mead at once began to agitate for the establishment of a state institution for the care of the insane. He says[2] that he was "the first to move in behalf of the insane of Illinois, having done nineteen-twentieths of the active labor of getting the Jacksonville Hospital established, and having been laboring in the cause as far back as 1842."

Dr. Mead's son, who was nineteen years of age when his father died, tells me that his father often told him that he wrote 700 letters during three years to influential people trying to interest them in the establishment of a public hospital for the insane. This was done when all letters were written by long hand, and when postage was from six to twenty-five cents per letter.

In November, 1845, Mead delivered "An appeal in behalf of the Insane" in the Presbyterian Church at Jacksonville, Illinois, looking toward the establishment of an Illinois State Hospital for the Insane.[3] This was an able address and set forth the needs and usefulness of institutions for the insane. He always insisted that such

2. American Psychological Journal, 1853, I, 199.
3. Do p. 129.

institutions were not simply for the confinement of the hopelessly insane, but more especially for the treatment of patients who might recover.

Further evidence that he never lost an opportunity to further his object is shown when upon his motion at the meeting of the Rock River Medical Society,[4] May 19, 1846, a committee was appointed whose duty it should be to report to the Society at its next meeting on the present status of the insane in Illinois.

In the discussion of the history of the establishment of the first hospital for the insane in Illinois the work of Mead has hardly been mentioned. Moyer[5] in this connection, does not mention him, and says: "It was largely due to her (Dix) activities that the Illinois Asylum for the Insane was opened in 1851."

When the Reports of the Illinois State Hospital for the Insane (1847-1862)[6] were reprinted in 1863, with the purpose of "preserving the historical records of a permanent institution," the volume opens with the "Memorial of Miss Dix," and no mention is made of the work done by others. The dramatic "memorial" to the State legislature in 1847 by Dorothea Dix doubtless was a factor in determining action by the legislature at that time, but she came on the scene only after the arduous and essential preliminary educational work had been done by Mead and his co-workers. In the first draft of the bill establishing the Jacksonville Hospital, three of the faculty of the Medical Department of Illinois College, viz., Mead, Adams and Prince, were among the trustees.[7] These names "were soon erased at the instance of some sagacious statesmen on the ground that the parent college was managed by Yankees and Presbyterians." Thus at the very beginning politics entered into our State institutions. There is little doubt that Mead, backed by his colleagues on the faculty of the Medical Department of Illinois College, secured the establishment of this first state hospital for the insane in Illinois, and determined its location at Jacksonville.

Mead early showed his interest in medical education, and as he had striven to correct the bad conditions in the treatment of the insane, so he quickly attacked the weak spots in American medical education.

When a medical school was organized at St. Charles, Illinois, in 1843, he was one of the teachers.[8] In 1844 he wrote a report on medical education for an Illinois Convention. Although he speaks of this report as having been published, we have been unable to find a copy. From his reference to it and from his subsequent writings on the subject we may imagine that he did not deal lightly with the defects in medical education as they then existed.

In 1845-1846 Mead was professor of materia medica and therapeutics in the Medical Department of Illinois College at Jacksonville, Illinois, where he proved a satisfactory teacher.[9]

As a delegate from this school in 1846 he attended the National Medical Convention in New York, being the only representative from Illinois.[10] Here this young man of 27 years, because of his enthusiasm in the cause of reform in medical education, was appointed a member of a committee to prepare a report on preliminary education of students of medicine and he contributed to the report which was presented the following year in Philadelphia,[11] at which time the American Medical Association was organized.

In 1847 Mead resigned his place in the Medical Department of Illinois College and removed to Chicago for the purpose of opening a private hospital for the insane.[12] From 1847 to 1851 he appears in the Chicago directories as a resident of the city. He seems to have attained some local reputation in the management of insanity, as Brainard speaks of him as having "devoted much attention to the subject," and as having "several cases upon his hands which were so urgent as not to admit of delay in treatment."[13] In an editorial Brainard also says, "He has procured, in the vicinity of the city, twenty acres of ground, favorably situated, upon which we will proceed to erect suitable buildings for permanent use. There is no hospital for insane persons, in operation, within several hundred miles of Chicago, and none in any part of the

4. Illinois and Indiana Med. Jour., 1946, III, 258.
5. Illinois Medical Journal, Sept. 1923, p. 207.
6. Reports of the Illinois State Hospital for the Insane, 1847-1862, Chicago, 1863.
7. Amer. Psychological Jour., 1853, I, p. 199.
8. The Old and New St. Charles by Mrs. Emily D. Shibley, 1909.
9. Black, Carl E., Illinois College Medical School, Bul. Soc. Med. Hist., of Chicago, 1913, I, 171.
10. Proceedings of the National Medical Conventions held in New York, May, 1846 and Philadelphia, May 1847, p. 14.
11. Do, p. 79.
12. Ill. and Ind. Med. Jour., 1847, IV, p. 280.
13. Do, 1847, IV, 280.

United States not already filled to overflowing, so that the establishment of this seems a matter of urgent necessity." When Mead opened his institution in Chicago it was the only one in operation west of Columbus, Ohio.

In a report of the Chicago Retreat for the Insane, published by Mead in 1848,[14] it is stated that the institution was opened in August, 1847, and that within six months fifteen patients were received, five of which were cured. Until the permanent buildings were ready for use a house on Kinzie Street was utilized for the care of urgent cases. In 1851 a fire was started by a patient, and the five buildings were burned.

The exact location of the Retreat has not been established. It temporarily occupied a house on Kinzie Street, between Wolcott (now North State) and Cass Streets. In 1847 permanent buildings were occupied on 20 acres of land, "2¼ miles northwest of the business part of the city," where "it is sufficiently remote from the noise and bustle of the town to afford the invalid all the necessaries which will restore to him mind, reason and health." Mead seems to have received the cooperation of many of the most influential persons of Chicago. On the Board of Visitors were Prof. D. Brainard, Rev. Bishop Quarter, Wm. B. Ogden, J. H. Reed, Rev. R. W. Patterson, Rt. Rev. J. O. Van de Velde. Members of the Board of Visitors outside Chicago included Dr. Wm. LeBaron of Geneva, Hon. Robt. Boal of Lacon, Rev. A. Hanson of Southport, W. T., and Dr. D. D. Stahl of Ottawa. The Lady Visitors included some of the most influential women of the city: Mrs. E. Peck, Mrs. H. Fuller, Mrs. J. B. F. Russell, Mrs. J. Y. Scammon, Mrs. D. L. Gregg. (Chicago Directories, 1847-8; 1849-50; 1851.)

It has been our good fortune to receive from Mr. Ernest Mead, son of Edward Mead, a book containing the records of the patients treated in this institution. The records are in Mead's handwriting and contain in systematic tabulated form a complete history of each patient.

From August 8, 1847, to Dec. 23, 1851, 139 patients were treated. Of these 8 were in 1847, 33 in 1848, 33 in 1849, 39 in 1850, and 26 in 1851. It is recorded that 63 were cured and 13 died. The patients came from various parts of Illinois, Wisconsin, Michigan and Indiana. Two were from Troy, New York, and one from St. Louis.

The first case was one of puerperal mania, developing a week after delivery and ending in recovery. The second case was a young woman in whom violent mania followed fright. In this Mead records that there was "instantaneous recovery, in which reason returned as quickly as an electric flash." He also noted that the patient had "hysteric convulsions—apparently entirely under her control." In several instances the record is that before admission, patients had been subjected to "copious bleeding, cathartics, low diet, blisters to arms and back of neck."

Case No. 17 was admitted Feb. 28, 1848, and discharged cured April 3, 1848. The diagnosis was mania. This patient was a male of 37 years. He had been "kept in Racine County jail 15 months; 9 months of the time heavily ironed, chained, manacled and handcuffed. The first item of treatment on admission was to send for a blacksmith to cut his rivets loose."

The loss by fire together with the opening of the Illinois State Hospital for the Insane at Jacksonville with a tendency for patients to go to the free state institution in preference to a private one probably influenced Mead in abandoning his Chicago Hospital, and accepting the proffered chair of obstetrics in the newly founded Cincinnati College of Medicine and Surgery. Here he also lectured on his favorite topics, mental diseases, and medical jurisprudence.

In 1852 he delivered the valedictory address[15] to the graduates of Cincinnati College of Medicine and Surgery. It is well written and full of good advice to the young graduate.

At Cincinnati in 1853 he founded the American Psychological Journal, "devoted to the elucidation of mental pathology and the medical jurisprudence of insanity." One volume only was published. It was issued in six numbers, dated from January to November, 1853, and contained 200 pages. Of it Juettner says: "It bears eloquent testimony of his ability and erudition."

After lecturing two years on obstetrics and diseases of women and children he severed his connection with the Cincinnati College of Medicine and Surgery. He also had completed a "regular and systematic course upon the highly

14. North-Western Med. and Surg. Jour. 1849, V, 56.

15. Valedictory Address to the Graduates of Cincinnati College of Medicine and Surgery, Cincinnati, 1852.

interesting subject of insanity." Juettner[16] refers to his high ideals as probably the cause of his troubles with A. H. Baker, who ran the school for his own glory and revenue. He also estimates Edward Mead as probably the best educated man on the first faculty of this school. It appears from his own statements that he sacrificed his teaching position because he refused to abandon his ideals of medical teaching. In the last number of his journal he pointed out the defects in medical schools which furnish poor preparation of physicians, and concludes "In my individual action, both in the College and the others alluded to, I can rightfully claim the credit of consistency. The censure now uttered is precisely in accordance with the sentiments contained in my report on medical education published by the Illinois State Convention, and in an article transmitted to Dr. Couper of Delaware, Chairman of the Committee on Preliminary Education appointed by the National Medical Convention which met in New York in 1846, of which Committee I was a member."

In 1853 Mead opened the Cincinnati Retreat for the Insane. This was conducted by him beyond College Hill and later on in S. Mt. Auburn until 1869, when he moved to Boston. In 1872 he opened a "Psychopathic Retreat" in Winchester, Mass., and from 1873 to his death he conducted a similar institution in Roxbury. Attached to the announcements [17] of the retreats are numerous letters testifying to Mead's ability. They were from prominent medical men and laymen in Ohio, among them being one from R. B. Hayes, Governor of Ohio, and later President of the United States, dated 1868. One testimonial was signed by the medical superintendents of most of the large institutions for the insane throughout the country. Mead attended meetings of the Association of Medical Superintendents of American Institutions for the Insane in 1850, 1856 and 1873.

While on a vacation trip in 1883, the vessel in which he sailed was wrecked on the coast of Pico in the Azores and he was drowned. His trunk, containing much valuable material for an extensive family biography, on which he was working, was lost.

Dr. Mead was thick set, 5 ft. 4 inches in height and of a cheerful disposition. He spoke German fluently, and had a good knowledge of French. He was a ready writer and a good speaker and counted many of the prominent men in Illinois and Ohio of his day among his friends. During the Civil war he was an active member of the Sanitary Commission. He was a member of the American Medical Association, Massachusetts Medical Society and Norfolk District Medical Society.

Edward Mead was a man of education and culture with high ideals for his profession. He fought to elevate the standards of medical education when this was not popular with his colleagues. His humane character is evidenced by his persistent and determined efforts to secure proper care for the unfortunate insane. He stands as the pioneer student of psychiatry in this region and the first to offer institutional care of the insane west of Ohio. The establishment of the first State Hospital for the Insane in Illinois resulted largely from his efforts.

16. Juettner, Otto; Daniel Drake and His Followers, Cincinnati, 1909.
17. Announcement of the Psychopathic Retreat, Cincinnati, 1853, Boston, 1872 and 1874.

EMPYEMA*

RALPH BOERNE BETTMAN, M.D., F.A.C.S.

Adjunct Attending Surgeon, Michael Reese Hospital, Attending Surgeon Chicago-Winfield Tuberculosis Hospital, Clinical Assistant in Surgery, Northwestern Medcial School.

CHICAGO

Since the war the closed method of treating empyema has been more popular than ever before. There is still, however, a large group of physicians who are unaware of its numerous advantages.

In the cases where empyema develops early—that is to say while active pneumonic process is still present—the closed method only should be used. These cases laboring under extreme respiratory difficulty cannot withstand the extra effort necessary when an open pneumothorax is superimposed on the pathological conditions already existing. Although at present few of us hold entirely to the tenets advanced by Graham and Bell during the late war as regards the motility of the mediastinum, yet most of us realize that an open pneumothorax is not well borne in the presence of acute pneumonia.

The closed method of treating empyema is attended with much less shock than produced by rib resection. The slow evacuation of pus

*Read before Section on Surgery, Illinois State Medical Society, at Decatur, Ill., May, 1923.

changes the interthoracic pressure relationship more gradually and with less disturbance than the quicker release after the usual open operation. The post-operative treatment in the closed method is very simple, dressings rarely having to be changed more than once every four or five days. This is quite a contrast to the care necessary in the usual open method, where in spite of numerous changes of dressings per day the patient is usually lying or sitting in a sea of pus.

The technique I wish to describe is an adaptation of the simple technique used before the war, which was more highly developed in the army. An operating room is not necessary. The closed method of draining can readily be carried out without removing the patient from his bed, and, if necessary, in the patient's home.

The diagnosis having been established by the usual methods of physical examination, the patient is prepared as for any operative procedure. The site of drainage is selected with regard to the position of the pus. It is not necessary to strive to obtain exactly the most dependent place. Any changes in the patient's position would cause this point to shift. It is still a mooted question whether the diaphragm does not act as an obstruction to free drainage when low incision is made. Inasmuch as the pus usually gathers posteriorly, the ninth interspace under the tip of the scapula is the usual site of drainage.

A small skin wheal is first made—procaine ½ per cent without adrenalin is our anesthetic of choice. The subcutaneous tissues are next generously infiltrated. Then with a long, large bore needle on a 20 c.c. Luer syringe the deep intracostal tissues are anesthetized. The solution is forced out as the needle is gently pushed ahead, infiltrating the path of the needle. In this way the pleural cavity is entered with practically no pain. As soon as the needle has entered the pleural cavity, aspiration is attempted. If the fluid aspirated is thin, fairly clear and more the type of a serous fluid than frank pus, it is much better to postpone drainage, relying on repeated aspirations until the patient shall be cured or the fluid have changed into definite pus. If the fluid, on the other hand, is thick, greenish and definitely purulent, the operation is continued as follows: The skin is nicked with a sharp scalpel at the site of the needle puncture. The needle is now withdrawn and a trocar forced through the intercostal space along the anesthetized tract. A catheter, which before the operation, had been found to fit snugly in the trocar, is pushed through the trocar into the chest cavity the moment the obturator of the trocar is withdrawn. The end of the catheter is clamped with a hemostat. It is wise to boil the catheter first before trying to fit it with the trocar, because the boiling swells the catheter and a catheter which cold will be found to fit, after boiling will sometimes be found too large. A trocar which will take an F-14 soft rubber catheter is the kind we have found very satisfactory. The sheath of the trocar is now withdrawn, leaving the catheter in the chest wall. The catheter is clamped near its emergence from the chest wall—the funnel end is cut off and the trocar removed. This funnel end is then rethreaded on the catheter and acts as a cuff which firmly fits about the catheter at its emergence from the chest wall. A safety-pin can be pinned through this cuff without going into the catheter itself, thus the air-tight technique is not broken. Two small bits of gauze at each side of the catheter and two adhesive bands complete the dressing. Dr. Greensfelder devised a thoracic binder used at the Michael Reese Hospital which has a perforation through which the catheter can be pulled and a pocket in which the catheter and its claimp is laid.

The after-treatment is the most important part of the operation. Continuous care and watchfulness are necessary. Every two hours the chest is aspirated through the catheter, not more than a few ounces at the utmost being aspirated at any one time. In order to liquify the pus and dissolve the large, thick fibrin flakes so that the catheter will not be blocked, Dakin's solution is used. After each aspiration a certain amount of Dakin's solution is injected into the empyema cavity, usually about one-third the amount of pus aspirated. This aspiration and injection is done with due regard to the maintenance of air-tight technique. The catheter is maintained in place until after the fluid aspirated has been shown to be bacteria free on three successive days. Then the catheter is withdrawn and the opening sealed with adhesive.

The temperature usually drops to normal within a few days. Within a few days also, instead of being able to obtain several ounces of pus at each aspiration only a small amount of fluid will be obtained. The fluid soon loses its

purulent aspect and becomes mucoid in appearance, although a smear would show pus cells. There will be times when no fluid at all can be obtained. This may be due to the fact that the catheter has become plugged by the thick pus or, and what is most usually the case that the empyema cavity has collapsed and the expanding lung is in contact with the eye of the catheter. In any event, a few c.c. of Dakin's solution are injected. A fluoroscopic examination may show that the end of the catheter is now above the fluid level and lies between the pleura and the expanded lung, and that withdrawing the catheter a few inches will again bring it in a position to drain the cavity. (The catheter after entering the chest walls almost invariably turns upwards instead of dropping downward as would naturally be expected.) If the pus leaks along the side of the catheter, it may occasionally be necessary to insert a slightly larger catheter in its place; this can readily be done without the use of a trocar or any other instrument except a probe. Occasionally the pus may wall itself off. Any rise of temperature should bring this possibility to mind and a careful physical examination, including a fluoroscopic examination, should be made.

The after-results of the treatment are most favorable. The lung readily expands, unless the case has been neglected. Calisthenics and the use of blowbottles materially help the expansion of the lung. In almost all cases there is a tendency toward the development of an anatomical and postural deformity. This is probably less marked after the closed method. This deformity, however, can be counteracted by the early use of specialized exercises—such as strengthening the elevators of the shoulder of the affected side to counteract droop shoulder by raising the arm into the air, bending the back to counteract scoliosis, etc.

Whether the closed method is really safer, quicker and less apt to be followed by complications, as we firmly believe, is difficult to prove. It would be necessary to have two long series of cases, one open method, one closed method, treated by the same corps of operator and assistants at the same time; that is, during the same period of the same epidemic, before a definite decision could be made. There is so much variance in the virulence of organisms in different epidemics ,so much difference in the after care, that statistics gathered over a period of years and from different men are at best inadequate.

We are convinced that the closed method of treatment is effective and that its technique is simple, and that as far as the patient and his attendants are concerned it is much more pleasant than the open method. The method that I have described was introduced at the Michael Reese Hospital by Dr. Greensfelder shortly after the war, and it has seemed to us that since its adoption our mortality has decreased, our patients have gotten well quicker, and that the occurrence of chronic empyema is greatly diminished.

104 South Michigan Avenue.

DISCUSSION

DR. DON DEAL, Springfield, Ill.: Dr. Bettman's paper was most interesting and, having used the closed method for a number of years, I feel that it is especially indicated in children and is successful in a large majority of those cases. However, in adults results are very materially reduced. The only difference in the drainage, which we employ, is the so-called air-tight drainage. We feel that this gives a better and continuous drainage and is simply done by extending the rubber tube, having it sumerged under water in a jar at the side of the bed. In adults the simple cases of empyema are the more favorable ones for this method.

DR. HERMAN H. COLE, Springfield, Ill.: I believe that the principles laid down by Dr. Bettman are absolutely right. If we can succeed in these empyemas in filling in the place occupied by the pus by normal lung tissue we will get away from the great majority of chronic empyemas which cause us so much trouble and cause so many reputations to go up in the air. There are many principles about operation for empyema which, while they were written many years ago, are still valuable. Particularly true is the fact that empyema immediately on diagnosis does not mean operate at that time. Wherever you have an empyema involving the entire pleural space it is probably better medicine, as shown by the Empyema Commission during the war, to keep aspirating until you get localizing adhesions so that when you make the incision you do not enter with all the shock and collapse and pneumothorax that goes with that mistake. I think we are going to use this method more and more in cases where formerly it was thought impossible. Even chronic empyemas can be made to expand and many cases will close which were heretofore considered hopeless.

DR. E. C. ROOS, Decatur, Ill.: I would like to emphasize what Dr. Cole said about aspirating some of these acute empyemas before a rib resection is done. This was done in the army and the results were very good. Another point which I think needs emphasizing was that brought out in an article in the JOURNAL

about two weeks ago; that is, many cases in whch a diagnosis of empyema is made will fail to show pus with the needle in aspirating. In some of these cases the operator goes through the pleural cavity and through the diaphragm into the peritoneal cavity and, of course, fails to get pus. If he would withdraw his needle and direct it a little higher, he probably would strike pus. This can be done under the fluoroscope and the cavity located, the direction of the needle being followed under the fluoroscope to make sure it does not puncture the diaphragm.

Another point in resecting a rib, the pleural cavity should be aspirated again to make sure that the incision into the pleural cavity is low enough or high enough to strike the pus. The incision can then be guided according to the direction of the needle after the pus has been localized with the needle.

DR. RALPH BETTMAN, Chicago (closing the discussion): I am sorry we are so unanimous. I thought there would be more opposition, especially from the work I have seen in hospitals where the open method is used.

I agree with Dr. Deal that the method is better in children. I also agree with Dr. Cole that there is no necessity for immediate operation. We do not consider empyema an emergency operation unless the patient has so much fluid that it is necessary to drain immediately, because of interference with respiration and circulation.

Society Proceedings

ADAMS COUNTY

The January Meeting

The January meeting held at the Quincy Country Club, January 16, was the annual social evening of the Society and was a Stag affair. The meeting was proceeded by a banquet in honor of Dr. Wm. Englebach of St. Louis and the president, Dr. W. F. Pearce, was in the chair. Thirty-three members and one guest were present.

Following the banquet the regular business session was suspended until the February meeting except for one item of business. The Secretary explained the desirability of developing Quincy into a larger and better medical center and the advantages of publishing each month a Bulletin. He then made a motion that "The Secretary be authorized to publish monthly a Bulletin of the Society making same as attractive as possible and be permitted to sell advertising space in same to desirable merchants, etc., to help pay the expense of same at such rates as will assure the Society no financial loss. That the Society appropriate for 1924, $100 from the treasury to help pay the expense of a monthly Bulletin. This money to be turned over to the Secretary on or before February 1. The Secretary to keep a careful record of all expenditures from this money as well as all receipts and expenditures that may be incurred in the publication of the Bulletin and to report same at the annual meeting of the Society." After some discussion the motion was carried unanimously.

Following this brief business session the members enjoyed a most excellent talk by Dr. Wm. Engelbach of St. Louis, on "Osseous Development (Roentgenologically) and the Result of Treatment of Ductless Gland Disorders," an abstract of which appears in the Adams County Medical Society Bulletin for February. This talk was illustrated by about 50 stereoptican slides and was enjoyed by all. Everyone was impressed with the original work Dr. Englebach has done with the x-ray as a means of early diagnosis in many of the endocrine disorders. Following the address Dr. Englebach answered many questions pertaining to endocrinology. Cards were enjoyed by some of the members after the conclusion of the address.

Harold Swanberg, M. D.,
Secretary.

ALEXANDER COUNTY

The annual election of the Alexander County Medical Society held in Cairo, Dec. 18, 1923, resulted as follows: president, O. M. Dickerson; vice-president, B. S. Hutcheson; secretary-treasurer, J. E. Woelfle; censor, 3 years, J. T. Walsh; delegate Illinois Society, Flint Bendurant; alternate, R. E. Barrows. After the election of officers the members retired to the blue room of the Halliday Hotel, where a seven course luncheon was served.

J. E. Woelfle,
Secy.

BOND COUNTY

The Bond County Medical Society met in Judge Biggs' office in the Court House with a goodly number present. The following officers for the insuing year was elected: President, Dr. E. A. Glasgow, Mulbey Grove; vice-president, Dr. H. M. Vaught, Greenville; secretary and treasurer, Dr. W. T. Easley, Greenville; censors, Drs. K. B. Luzader, D. R. Wilkins and J. H. Gordon. Dr. W. T. Easley was elected delegate to Illinois State Medical Society and Dr. K. B. Luzader, alternate delegate. The following program was included:

"Chiropractor and Other Cult Healers," Dr. H. D. Cartwell.

"Wagon Medicine Peddlers," Dr. J. H. Gordon.

"Counter Prescribing by Druggist," Dr. J. L. Cordonnier.

"County Bidding for Pauper Practice," Dr. K. B. Luzader.

"Are the Increasing Hospital Facilities and Good Roads Causing the Loss of Practice to the Doctor," Dr. A. M. Kirth.

"Must Medicine in the Future Have No Rank and File," Dr. C. H. Powell.

"What Is Organized Medicine Doing for the Rapidly Deteriorating Situation."

The above subject was discussed by all present and

many suggestions were offered. All present appeared to take good interest and are looking forward to the May meeting.

CHRISTIAN COUNTY

The Christian County Medical Society met at Taylorville on the evening of January 15 and had one of the finest meetings we have had for a long time. After a "Get together" dinner at the Antlers Hotel, the meeting adjourned to the County Court Room, where Dr. C. E. Burford of St. Louis was speaker of the evening. His address was on "Some Interesting Surgical Conditions of the Kidney and Ureter; Their Diagnosis and Treatment." His lecture was illustrated by the lantern slides made from cases of his own and were most interesting.

Besides the members of our own society there were three visitors from Decatur, who came down especially to hear Dr. Burford. That the meeting lasted until 11 o'clock is evidence of the interest of the members.

The new officers elected are: Dr. Louie H. Miller of Pana, president. All the rest of the officers were re-elected for this year. One new member was elected to membership and as soon as he registers and pays his dues he will be enrolled in this society. The meeting adjourned to meet again on the third Tuesday of July.

D. D. Barr,
Secretary-Treasurer.

COOK COUNTY

CHICAGO MEDICAL AND CHICAGO PATHOLOGICAL SOCIETIES

Joint Meeting, Jan. 16, 1924

The Present Status of Food Poisoning in the United States—J. C. Geiger, Epidemiologist, U. S. Public Health Service.

Discussion opened by John L. White, Principal Bacteriologist, Bureau of Laboratories, Chicago Department of Health.

CHICAGO MEDICAL SOCIETY

Regular Meeting, Jan. 23, 1924

1. Hematuria, With Especial Reference to Its Pathogenesis—J. S. Eisenstaedt.

General discussion.

2. A New Treatment for Hay Fever, Hyperesthetic Rhinitis and Asthma Based on the Ionized Calcium Content of the Blood Serum.—Frank J. Novak, Jr., and Abraham R. Hollender.

Discussion—Norval H. Pierce and Jos. C. Beck.

CHICAGO OPHTHALMOLOGICAL SOCIETY

(Meeting of Oct. 16, 1922, Continued)

NEPHRITIC RETINITIS

Dr. Robertson (for Dr. George F. Suker) reported the case of a boy, 14 years old, who was admitted one week ago, complaining of periodic attacks of vomiting associated with headache. The attacks started about a year and a half ago, the interval between attacks becoming shorter and shorter, so that they now occurred every two or three days. There was no history of the disturbances of childhood.

The essential positive findings were a systolic pressure of 224, diastolic 170, giving a pulse pressure of 54. The urinalysis showed a large amount of albumin, and a specific gravity of 1011. The blood Wassermann reaction was negative.

Examination of the eyes showed R. V. 20/13; L. V. 20/13. Both disc surfaces were edematous, the margins distinctly blurred. The veins were engorged, the arteries small and there were numerous plaques of hyalin degeneration arranged around the macular region.

The diagnosis was made of chronic diffuse nephritis and nephritic retinitis. The case was interesting because of the extreme youth of the patient with such *high blood pressure* and the good vision present in the eyes.

CHORIORETINITIS PIGMENTOSA

Dr. Fink (for Dr. George F. Suker) presented a case of chorioretinitis pigmentosa.

Dr. Oliver Tydings presented a young lady who showed a pigmented spot on the caruncle, which had existed for a year. Microscopic examination had not been attempted.

SARCOMA OF ORBIT

Dr. Michael Goldenburg presented the case of a man, 42 years old. He first noticed a swelling the size of a pea over the left lacrimal sac one year ago, which disappeared after about six weeks, recurring two months later, and had gradually increased in size. The growth had been much more rapid during the past six or seven weeks. It had broken open at two points during the past week and was discharging slightly at present.

There was a reddish, angry swelling about two by three inches, which projected about an inch and a half. The eye was proptosed and pushed outward from th midline very markedly. Over the lacrimal area there were two smaller rounded swellings. To the temporal side of these swellings was a crevice where the skin was broken open. Temporally and ¾ inch below this was a ⅜ inch opening in the skin which discharged a small amount of yellowish serous fluid. Large branching veins could be seen plainly under the skin surface. The right and left consensual reactions were good; the left eye reacted slightly to light; the left eye was blind except for light. Three weeks ago he could count fingers at 18 inches, to the nasal side.

Fundus: The disc could not be located. Many hemorrhages were present, retinal and subhyaloid. The vessels were tortuous. Many white areas wer present. On the nasal side it looked as if some detachment of the retina were taking place, with a possibility of a neoplasm breaking into the eyeball. The blood Wassermann reaction was negative.

The diagnosis was that of sarcoma, probably originating in the ethmoids.

DISCUSSION

Dr. Elbert Clark stated radium was applied externally on July 18 for 4,200 milligram hours, screened with 0.6 mg. gold, 1 mg. silver, and 1½ cm. rubber. This application was changed every six hours for forty-eight hours. On July 25, 2,712 milligram hours were used, five pieces of radium being embedded in different parts of the tumor, and so arranged as to be not over one centimeter apart. No other treatment had been employed. There was a rather violent reaction, with a little more swelling and edema.

INDUSTRIAL EFFICIENCY WITH POOR VISION

Dr. W. A. Fisher presented a man to show what could be done with 20/200 vision. He was 38 years old. At the age of 11, when in the fifth grade at school, he contracted smallpox. The left eye was removed by the late Dr. Beard, and he attempted to restore vision by an iridectomy on the right eye. The patient was blind from the age of eleven until he was thirty. An iridectomy performed at that time gave him 20/200 vision. He then learned the brick laying trade, and for the last five years had been drawing full pay as a brick layer. The interesting thing was that he was now a useful man, drawing the same wages as though he had 20/20 vision. He would be classed as industrially blind on account of the 20/200 vision.

LENS EXTRACTION BY BARRAQUER TECHNIC

Dr. W. A. Fisher presented a lady to show that the lens could be removed by the complete Barraquer technic, carried out as Barraquer was doing it at this time. He was not operating according to any paper that he had ever written. His latest paper, not yet published, would be something quite different. Barraquer in that paper would present 112 original pictures, giving his technic in full. In this case the technic was that which Barraquer used in Richmond and Philadelphia in April, 1922. All the patients were left with nice round pupils. In the first place he dilated the pupil with eucain and cocain, using it every fifteen minutes for an hour and a half, or until the pupil was fully dilated. He then made an injection of novocain across under the lower lid, one downward and one upward. In every operation he turned the lens upside down, bringing the lower edge up first, and no pressure was used. The operation was done with a dilated pupil with a very small peripheral iridectomy, as in this case. In several cases the novocain produced a paralysis of the orbicularis, and stitches were put into the skin of the lids to keep the eye closed. The patient was in the hospital nine days, did not have any postoperative inflammation and had 20/20 vision.

MYDRIATICS AND CYCLOPLEGICS

Dr. G. Henry Mundt read a paper on this subject, in which he stated that one of the very important works of the ophthalmologists was refracion and a vast majority of competent men considered a cycloplegic one of the prime essentials of good refraction. He considered the isomeric substances hyoscin hydrobromid and scopolamin hydrobromid identical, since Merk labeled them so; also this was a practical settlement of their difference which had been extensively discussed. He was thoroughly convinced that in refraction every patient under forty years of age should have a cycloplegic; that nearly all those between forty and fifty should, excepting those who had normal vision and apparently did not need distant lenses and had no symptoms other than poor vision for close work. Practically all patients under fifty years of age should be refracted with a cycloplegic. In myoptia it was as essential to use a mydriatic as in any other class of cases. He could not subscribe to the view that hyperopia was the indication for refraction with a cycloplegic. If one was to determine with accuracy the total error of any patient, the one right method was to use a cycloplegic, and before any one was really competent to prescribe lenses, he should know the total error of refraction.

As to the comparative value of the three common cycloplegics, homatropin hydrobromid, hyoscin hydrobromid and tropin sulphate, for refraction up to the age of fifteen or sixteen years, homatropin hydrobromid was probably the poorest drug for use in these cases; because while its mydriatic action might be complete, the essayist thought it was a failure as a cycloplegic at this age. Atropin sulphate was probably the best drug when used properly, because of its certainty of action and its relatively low toxicity when compared with hyoscin hydrobromid. Hyoscin hydrobromid was a drug of first value; and in selected cases with proper precautions in its administration it was very reliable, nearly as reliable as atropin sulphate.

As to the method of administering *homatropin* hydrobromid, he used a fresh solution (made fresh at least once a week) of 2 per cent homatropin hydrobromid and 1 per cent cocain hydrochlorid. This was dropped in the conjunctival sac every five to ten minutes a varying number of times, dependent upon the age of the patient, from 15 to 20 years 8 times; 20 to 30, 6 times; 30 to 40, 4 times; 40 to 50, 3 times, and beyond 50 once or twice only.

As to the use of *atropin* for refraction, a one per cent aqueous solution was used four times a day for three or four days, in patients beyond six years of age; 3 to 6 years a one-half per cent solution and a weaker solution below three years of age.

The *hyoscin* hydrobromid was used in a solution the maximum dose in adults being two drops of one-half per cent solution, with the excess mopped up at once and pressure made over the sac. This meant that one drop might be used in each eye, or two drops with an interval in one eye. This was the maximum dose and must be used with great caution. He more frequently used a one-fourth per cent solution, but in iritis the one-half per cent solution was much more active. The one-fourth per cent solution might be used twice with care as young as twelve years; from

12 to 8 about one-sixth or one-eighth per cent, from eight down, much weaker.

DISCUSSION

Dr. Oliver Tydings fully concurred in the opinion that hyoscin and scopolamin were the most important of the cycloplegics. He did not agree with the essayist as to the strength of scopolamin be used. Dr. Mundt spoke of a ½ of 1 per cent, Dr. Tydings used it in about 1/5 of 1 per cent. He did not hesitate to send a patient out with scopolamin any more than with atropin. He did not believe that in the last fifteen to twenty years he had used atropin in one case out of a hundred. The cycloplegic action that was obtained from scopolamin, in one-half or three-fourths hour, could only be obtained from atropin in three days, or sometimes longer.

He did not agree with Dr. Mundt when he advised atropin or scopolamin as a cycloplegic in all cases. He thought one could refract many cases without any cycloplegic at all.

Dr. Thomas Faith referred to two points not mentioned in connection with homatropin and scopolamin. One was that much of the hematropin had been very faulty for a year or so. There had been many instances in which the effects had lasted for days. A peculiar thing he had noticed in connection with homatropin was that frequently he could get ½ to ¼ more plus sphere without homatropin, than he could get with it.

Another thing in connection with the use of scopolamin was that he had used it in a strength of one grain to the ounce and found it deteriorated very rapidly. In a very short time scopolamin would not be of any value, even at the end of a week sometimes. He had not used ½ of 1 per cent of scopolamin, but always had adhered to the weaker solutions. He had given scopolamin to use at home, giving them ¼ grain to the half ounce and had it applied once or twice a day for several days, and then followed with two or three instillations of scopolamin in the office, usually two, at one sitting with a 15 to 20 minute interval. The advantage of this was that instead of having two weeks mydriasis he had two or three days. There was a tendency to get away from homatropin and scopolamin and all cycloplegics, but he felt that the refraction was not as good when done without them. He manifested his patients, used homatropin or scopolamin up to forty; after that he used homatropin occasionally, but not as a rule. He did not rely on homatropin as he did a few years ago, but he did use scopolamin right along.

Dr. Mundt: As to the strength of hyoscin, the maximum was ½ of 1 per cent. He said he more frequently used ¼ of 1 per cent but one could use ½ of 1 per cent, and it was very active. He did not prescribe it as a cycloplegic because he thought it was too active to put into the hands of a patient. He thought scopolamin was about like putting a can of ether in the hands of a patient.

As to the activity of hyoscin, there were three isomeric substances. One diverted light to the right, one to the left, and one was non-light diverting. The non-light diverting was absolutely nondilating. He thought there was no question that homatropin was not constant.

RESULTS OF COL. SMITH'S CATARACT OPERATIONS

Dr. W. A. Fisher read a paper correcting earlier reports (See v. 5 p.) which he published in full in this journal.

DISCUSSION

Dr. Thomas Faith stated that the intracapsular operation must stand on its own merits, and it should be given this opportunity. At the December meeting he made the statement that he could not understand the great difference in the results at the Illinois Charitable Eye and Ear Infirmary and the Chicago Eye, Ear, Nose and Throat Hospital, because he had watched the Smith method for several years and the freedom from postoperative inflammation was striking and had been well set forth by Smith in his various writings. He saw the four cases mentioned by Dr. Fisher and was able to obtain 20/20 vision without any difficulty in three, but the fourth being a fundus lesion could not be expected to have normal vision. However, the surgical result in this case was excellent.

ROBERT VON DER HEYDT,
Corresponding Secretary.

THE CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The November meeting of the Chicago Laryngological and Otological Society was held jointly with the Chicago Medical Society on Wednesday evening, November 1, 1922.

The President, Dr. Charles H. Long, in the chair.

Prof. Robert Bárány, Upsala University, Sweden, delivered an address entitled "Oto-Neurology and the Necessity of Cooperation Between Ear and Eye Specialists, Neurologists and Brain Surgeons."

Professor Bárány took up, first, the historical development of various tests in connection with otological and ophthalmic work. He stated that the anatomy of the vestibular apparatus had been known for several hundred years. Many sane observations had been made, but there were many speculations. For instance, during an attack of vertigo involuntary eye movements occurred, but no one in those days took the trouble to investigate why these eye movements occurred. Purkinje had the opportunity to observe the eye movements in vertigo in cases of insane people, who were placed in cages and turned around until they became nauseated, and eventually they quieted down. While this treatment was said to be effective, it did not seem humane. Purkinje studied the eye movements of these patients and found that under normal conditions eye movements were obtained by holding the head in different position, and different results were secured, and Purkinje came to the conclusion that it was the head which was directly influenced by the drum. But he drew a wrong conclusion; it was the brain which was irritated by the drum. There must be a sense organ before the brain could get a sensation, and Purkinje thought the brain got the sensation directly. In the same year that Purkinje was doing his work Fleron made some experiments on pigeons. He dissected the different canals in pigeons and found that when he dissected the horizontal canal, which lies in a horizontal plane, the pigeon turned in a horizontal plane; that if he dissected the vertical canal, the pigeon would make curious movements which he could not understand. He did not think these birds were dizzy, and that it was vertigo which produced these movements. Purkinje was familiar with dizziness in man but not in the dizziness of animals. He came near making a discovery, and if he had turned one animal he would have seen the difference between the dizziness of man and the dizziness of animals. Other men repeated the experiments of Purkinje and Fleron without discovering anything especially new. In the year 1861 Menicre's disease was brought to the attention of the profession. At that time Meniere was sixty years of age and his discovery was considered unusual, but it was accepted. He had practiced as an ear specialist

for many years, and frequently saw cases in which dizziness occurred. At this time, if patients presented themselves with attacks of dizziness he immediately made a diagnosis of cerebellar tumor. He had made several autopsies in such cases and had found cerebellar tumor in some of the cases. Meniere studied his cases carefully and found some patients who had had dizziness for thirty years, but who never developed cerebellar tumor, so that he came to the conclusion that his diagnosis of cerebellar tumor was incorrect when based on dizziness alone. He began to look for some other explanation and he found these cases always had dizziness, tinnitus and earache, although the ear drums were normal. The tuning fork was unknown at that time, but Meniere concluded from these other symptoms that these patients must have some lesion of the inner ear. The cochlea was for hearing, but it was not known what importance the semi-circular canals had. Meniere received inspiration from the experiments of Fleron and believed dizziness was the cause of the movements of the eye in animals without ever having turned an animal or examined it himself. He came to the conclusion that the dizziness of patients was due to some disease in the semi-circular canals. It was subsequently pointed out that he was right in reaching that conclusion. He published several articles on what is known as Meniere's disease prior to his death. It was thought that Meniere's death did much to promulgate his theory, because Dr. Bárány believed that if he had not died his colleagues probably would have fought him, but instead they made a national hero of him.

In 1870 a German physiologist by the name of Glotz repeated the experiments of Fleron and advanced the theory that if the semi-circular canals were diseases the animals lost their equilibrium; therefore, it was probable that the function of the semi-circular canals was to maintain equilibrium. Other men who made observations and experiments were Breuer and Mock, of Vienna, and Brown in America. Brown in turning animals saw that he produced the same movements as by dissecting the semi-circular canals. He maintained that irritation of these canals was the cause of dizziness, because it was very clear the animals became dizzy. On the other hand, if he destroyed the canals on both sides the animals were again made dizzy. He advanced the theory that the movements of the endolymph, produced by turning, were the cause of irritation or of stimulation of the canals. Mock came to the same conclusion by other experiments which he made, but in a logical and philosophical way concluded that all the other causes could be excluded, and only the semi-circular canals remained to produce the sensation of turning. Brown examined normal individuals with turning sensation in different positions of the head, and said there could be no question that it must be the semi-circular canals which produced sensation because the brain could not directly take its position. These men were not ear specialists; consequently ear specialists for a long time did not appreciate this theory on the ground that they had not found pathologic cases. Some examinations were made of deaf mutes after the turning method of Breuer, but except for these findings there was not much learned. Quite a number of men had made valuable observations; among them Yansen, of Berlin, who saw a large number of cases of fistula or lesions of the labyrinth, and was one of the first to advocate operating on the labyrinth when it was suppurating.

When the speaker began to examine these patients he had received three years' training in the Clinic of Pollitzer, of Vienna, and had studied the literature on the vestibular apparatus in which he became very much interested. At the clinic he syringed those cases that had fistula of the attic of the tympanum, and in so doing observed the patients became dizzy. From what he had read of the work of Breuer, it was clear to him in looking at the eyes that nystagmus was present. When he syringed the right ear he noticed nystagmus which he designed in such a way that there was horizontal and rotary nsytagmus to the left. This observation was noted on a sheet of paper which he put in his pocket. The next day he had another case of nystagmus which was treated in a similar way. He recorded this observation on a sheet of paper and put it in his pocket. In a short time he found he had something like twenty such cases that he had recorded and was astonished to find that he had always observed the same thing. He found that if he syringed once on the right side, and then the left side, he became confused, and it was clear to him that there was a law behind this, but he had no idea what that law might be. One day one of his patients came to the office and when he syringed his ear again the patient exclaimed, "Doctor, the water is too cold; when I syringe the ear myself at home I never get dizzy." The speaker then said to the nurse that the patient had complained of the water being too cold. The nurse in reply said it was not true; the water was not cold, as she had tested it with her finger.

The speaker pointed out the necessity of having the water warm. Subsequently the nurse made the water very warm, and after syringing the ear again, patient's eyes he immediately saw that the water had produced the opposite nystagmus. It was the temperature of the water which had produced this opposite nystagmus. This observation was a step to other conclusions. If it was the temperature of the water which produced this effect in suppuration of the attic, might not this phenomenon occur in other cases? He examined other cases after syringing with cold and hot water and found that all cases with normal drums showed the same phenomenon, only it took a little longer time to get it, as in a case where there was no drum. Up to this time he did not know how cold and hot water could influence the labyrinth to produce this nystagmus, but one day he saw an explanation for it. (Here Professor Bárány with the aid of blackboard diagrams showed how hot and cold water could influence the labyrinth sufficiently to produce nystagmus.) He found that if the labyrinth on one side was destroyed, he did not get this reaction, so he sought for cases that had no reaction and he found such cases with no colloid reaction, and when

he operated on it was found the labyrinth was destroyed, with the presence of cholesteatoma. The clinical value of the test became evident to him, and it was now possible to examine every vestibular apparatus. If one syringed the right ear with cold water, nystagmus was produced, the patient became dizzy, so that when he closed his eyes the sensation was to turn to the left side. He found subjective dizziness on turning sensations.

There were reflex reactions upon other muscles of the body besides the nystagmus. Such a nystagmus could be observed in man. If he got a falling reaction he could not stand erect with his feet together in the Romberg position; he would slowly fall to the right side. If his head was turned to the left side the falling was changed; he fell forward. If he turned his head to the right side he fell backward.

In thinking about the mechanism of the falling reaction he employed a method which he found had been developed by Exner, a physiologist, who had written a book on the subject. Exner, he said, tried to construct mechanisms in the brain or in the spinal cord which would produce physiological effects. These mechanisms were constructed upon the neuron theory. The speaker had found this method of Exner's valuable for constructing mechanisms in the brain and also for the vestibular apparatus. Possibly somewhere in the brain there was a cell which received its impression, and through this cell there was innervation down to the spinal cord, so that the patient fell to the right side. There was some stimulation of the semi-circular canals during the turning of the head which produced this change. He found that if he held the head in the same position and turned the body, and not the head, he got the same change, so that the cause of this change was not in the head, it must be in connections between the head and trunk, and he came to the conclusion that it must be in the deep sensibility of the neck. After making other observations and tests he saw there was a double influence exerted on one center, and the question was where was this center situated? This center received impulses from the semi-circular canals and impulses from deep sensibility of the neck.

He then studied the literature on the histology of the brain to see if he could find where this center might be. He though it might be the principal nucleus of the vestibular nerve, but he could not find this center in the deep sensibility of the neck. He found, however, the deep sensibility of the neck extended into the cerebellum, and therefore he concluded that it extended into the vestibular cerebellum, and not in the medulla oblongata. If the vestibular mechanism was destroyed he was not able to get this influence. Then he went to work to find out if there was disease in the cerebellum. He found such a case on which an autopsy was held, showing a tumor in the cerebellum. Several months later he was called upon to make a diagnosis in a case where neurologists could not find out on which side of the cerebellum the tumor was situated, and he was asked to find it out by his method of examining the right and left ears. After making tests he was not sure himself on which side the tumor was located, but finally decided it was on the right side. It was subsequently found that the tumor was on the left side.

He began to study the literature on the subject and found an interesting book by Bolk on the cerebellums of mammalia. In this book Bolk presumed that the cerebellum had something to do with innervation of the muscles and compared the cerebellums of different mammalia with each other. He found the giraffe had an enormous neck, well developed, while the neck was nearly absent in the mole, and concluded that this part had to do with the innervation of the neck. After comparing the cerebellums of different animals he concluded that the hemispheres of the cerebellum must have something to do with the innervation of the extremities and the middle part of the cerebellum had to do with the innervation of the trunk. In one case he found a tumor was situated in one hemisphere and not in the vermis, and therefore could not make the diagnosis before operation. By the pointing test he found innervation of the extremities in the same way as innervation of the musculature of the trunk and falling reaction.

The pointing test and falling reaction were not such simple reactions as nystagmus. Nystagmus was quite independent of the will of the person. Fixation could diminish the nystagmus and sometimes inhibit it, but if fixation was excluded one could see nystagmus exactly as it was without any influence upon the side of the person. The falling reaction was influenced by voluntary movements. If we got such innervation in the right side, a person could fall to the left side, so that the reflex movements were not so easy of investigation as nystagmus.

Pahological ear cases were more frequent than cerebellar lesions. Tumor cases were difficult because the tumor was only damaging the parts where it was situated, but the whole brain was being pressed upon in different directions, producing hydrocephalus and a number of symptoms, so that these cases were not so simple as the ear reactions in diseases of peripheral organs. Therefore, it was necessary to have the cooperation and collaboration of many men to develop this work. There was still an enormous amount of work to do which would take many years, and specialists should cooperate in every way in carrying out further research work which would eventually result in not only great benefit to the patients themselves but to mankind in general.

DISCUSSION

Dr. George W. Hall said that Professor Barany had rightly stated the difficulty of exact localization in cases of brain tumor because of pressure in distant parts of the brain, and he would like to ask him for information what light he could give from his tests in cases of occlusion of the posterior inferior cerebellar artery, which causes certain vestibular manifestations?

Professor Barany replied that he had examined two or three cases of occlusion of the posterior inferior cerebellar artery, and in one case there was marked nystagmus, which was to be explained by a lesion in the medulla which occurred near the nucleus descendens of the vestibular nerve. He

had seen severe disturbances of equilibrium in these cases, and the question arose whether it was the nucleus which was affected, which had connection down to the spinal cord, or whether it might be a lesion extending into the cerebellum and causing trouble there. He had also observed that certain pointing reactions were not present in such cases. If it was a lesion of the cerebellum or of the tract traveling down into the medulla oblongata, if certain pointing reactions were not present, then probably the lesion was in the cerebellum and hemisphere, and not in the medulla oblongata.

He had not been able to make autopsies on any of his cases, but he mentioned one case reported in the literature by a German in which a postmortem was made and the findings corroborated the symptoms manifested during life. In most of the cases that came to postmortem he said these tests had not been made; if they were made, they were incomplete, and it was not possible to reach a correct conclusion if one did not make a complete examination. In some of the cases he had seen reported in the English literature in which spontaneous pointing was found and eye pointing reactions to the turning or syringing, there was only an examination of pointing in one plane, and not in the other. Incomplete examinations did not help very much. In such cases there must be an exact examination, and then it would be interesting to compare these examinations with the autopsy findings. These cases were suitable for drawing deductions because the tumors were not pressing and making other symptoms.

Dr. George E. Shambaugh stated that there was one practical question which often confronted a physician, and that was the question as to whether in cases of vertigo the disturbance arose from the internal ear or from an intracranial disease. It must be quite clear to everyone present from what Professor Barany had just said that vertigo and disturbances of equilibrium could be produced as readily from diseases of the posterior brain fossa as from alterations in the internal ear. Dr. Shambaugh believed that the otologist was able with very few exceptions to determine definitely whether the disturbance of equilibrium arose from internal ear disease or whether it was being caused by intracranial trouble.

This was always the first important question to determine in the cases of vertigo. He was not so confident that our interpretation of the reactions obtained by applying the Barany tests, as they were now called, had reached such a point that we were able in many cases to determine anything more than that we had to deal with a disease in the posterior brain fossa. His experience had convinced him that these tests, when properly applied, and where they were properly understood, would often give a definite clew regarding the existence of some obscure intracranial condition much earlier than the neurologist could find any evidence of these conditions.

Dr. H. I. Davis said it was not easy for the neurologist to answer certain questions, as was proven in a case seen by Professor Barany and himself. The patient had had attacks of dizziness and disturbances of equilibrium and at one time mild epileptic seizures were suspected. On investigation the patient was satisfied that she had never lost consciousness during any of the attacks, and after repeated examination it was thought the labyrinth might be responsible for them. When the patient was carefully examined by Professor Barany the presence of moderate nystagmus was disclosed, and the question was settled in favor of the labyrinth.

Dr. Archibald Church was gratified to learn that even Professor Barany still found difficulty in the interpretation of these complexes. The speaker had the impression that in one or two conditions a definite combination of symptoms developed. In these caloric tests, the turning test, the pointing test, and falling inclination were quite precise, as, for instance, in tumors of the pontine angle—the acoustic tumor in particular. He had a feeling that the neurologist picked out these cases as soon as the otologist, and he recalled several patients whom otologists had accused of having cerebellar and brain tumors because of some modifications in the responses induced by the Barany tests. These patients had some bad moments under the impression gathered from the otologist that they were the possessors of brain tumors. However, this supposition was not verified by the clinical histories extending over a period of a year and a half, two and three years, respectively. The interpretation of these signs and symptoms was extremely difficult, and what at first promised to give an easy avenue to correct diagnosis of a localizing character, he was afraid in the great majority of cases, only served either to confirm neurological observations or else to confuse them. The subject was one in the study of which all should cooperate. The fruits only would be gathered after much data had been carefully collected and thoroughly sifted.

Dr. J. Holinger thought everyone, after listening to the remark of Professor Barany, got the impression that it would take an enormous amount of joint work on the part of pathologist, neurologist, physiologist, ophthalmologist, and anatomist in order to work out all the questions that were involved. He believed we have no facilities to undertake such work. Many beautiful views had been opened up in various directions, but we have no men, no clinics or laboratories to undertake these investigations. The facilities for doing such research work are not at our command either in Chicago nor in any other great medical center in the United States. It was high time for specialists to begin to work jointly in order to get an insight into the complicated workings of the brain, eye and ear, for the best welfare of patients and of humanity in general.

Dr. Clarence A. Neymann inquired of Professor Barany about those cases of psychogenic pseudo-nystagmus with certain of the other reactions that recover or are improved after psychoanalysis. He recalled the case of a young girl whom Professor Barany had seen in St. Louis. This girl showed certain reactions as to past pointing, etc. She was totally incapacitated for work until a definite psychic complex was unearthed. She still showed some reactions but improved as regards dizzy spells and was able to work.

He had had several other cases in which there were attacks of tinnitus aurium, dizziness, or vertigo that had done remarkably well under this sort of treatment, and he asked Professor Barany if any psychic influence could change these tests.

Professor Barany, in replying to Dr. Neymann and in closing the discussion, stated that he had never seen hysterical nystagmus. It was possible, however, that hysterical patients could produce eye phenomena, such as convergence, which was not at all infrequent. It was possible for a patient to produce voluntary nystagmus. He knew of men who could produce voluntary nystagmus, and he could do it himself.

Another thing: hysteria was produced by disease of the vestibular apparatus very often, and then it was possible by treatment to improve the hysterical symptoms. For instance, he had seen a woman with moderate attacks of nystagmus, and by stimulating eye movements from the vestibular region she felt very dizzy. It was possible by some means to get rid of this sensibility to nystagmus.

As to the girl he saw in St. Louis, the patient was not cured by psychoanalysis. She had quite definite trouble when he saw her after treatment. Probably her hysterical psychosis had been improved, and one could by treating the hysterical psychosis or hysterical symptoms get improvement, but a real hysterical nystagmus he had not seen. It was quite another thing with the past pointing which could be produced voluntarily. One could past point and this could be influenced by hypnosis and by other methods. He had a patient in Upsala who had dizzy spells with nystagmus and past pointing. One day he got the idea of putting a noisy apparatus in her ear, which he did, and then the past pointing completely disappeared. In another case he used a tuning fork on the skull and the past pointing disappeared. The past pointing could also be made to disappear by psychoanalysis.

He did not believe that hysteria was a disease situated in the medulla; that hysteria was a subcortical disease and was not situated in the medulla oblongata, nor in the vestibular nerve. One could detect spontaneous nystagmus by tests, also spontaneous past pointing. There was a diminution of certain reactions in tumor cases where neurologists had not

found anything. He saw such a case recently at the Mayo Clinic.

If one desired to make an accurate diagnosis in these cases he must be familiar with the various apparatuses, otherwise he would make mistakes.

CHICAGO OPTHALMOLOGICAL SOCIETY

November 20, 1922

Vice President Frank Brawley in the Chair

IMMUNE REACTIONS OF UVEAL PIGMENT

Dr. Alan C. Woods of Baltimore, Maryland, read a paper on "The Immune Reactions of Uveal Pigments and Their Clinical Significance."

IMMUNE REACTIONS OF LENS

Dr. Ludwig Hektoen of the John McCormick Institute for Infectious Diseases, Chicago, presented a further report on his research work on the immune reactions of the crystalline lens.

DISCUSSION.

DR. ROBERT VON DER HEYDT said that it was with great interest he heard Dr. Hektoen's remarks about the difference in the biological behavior of the fetal lens compared to the whole adult lens substance. In view of the fact that we now find such a great difference in the pathological behavior of the lens cortex compared to the embryonic nucleus, which is the lens at birth, and also in view of the anatomic contrast, might there not be quite a difference in the biological behavior and the relation of the cortex material, compared to the nuclear material of healthy or cataractous lenses? This material could be obtained by macerating the lens, thus separating the cortex from the nucleus.

Another question he would like to ask is this: If we operate on one eye for cataract and leave some of the cortex in the eye, as was often done, could the left in cortex hasten or inhibit the progression of cataract development in the other eye?

This was something ophthalmologists may in time be able to formulate an opinion on, and he thought it might be interesting to know whether Dr. Hektoen thinks it would have such an effect.

DR. OLIVER TYDINGS said he would like to ask one question from a purely clinical standpoint. When an eye retained a certain amount of inflammation for a time and was then lost, what effect would that eye have upon the development of sympathetic trouble in the other eye in after years? He would like to know whether any observations had been made along that line.

DR. HEKTOEN, in closing the discussion, and in asnwer to Dr. Von der Heydt stated: that in cataract the cortex contained more of alpha crystallin than beta crystallin. As to the possible effects of leaving some of the cortex of the lens in the eye, that is, as to the influence this might have on the patient in addition to its local irritating action, nothing definite could be said at this time. In the rabbit it is extremely difficult, except under special conditions, to obtain any lens precipitin by injecting rabbit lens, but whether the analogous condition obtains in man is not known.

In answer to a question by Dr. Woods, he said that so far his work had been limited to precipitin reactions.

ROBERT VON DER HEYDT,
Corresponding Secretary.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The regular monthly meeting of the Chicago Laryngological and Otological Society was held on Monday evening, December 4, 1922, at the Hotel Sherman.

The President, Dr. C. H. Long, in the Chair.

PRESENTATION OF CASES

DR. ELMER L. KENYON presented a young woman of twenty-seven, a teacher, who had had a uniformly impaired voice for twenty years. No physical cause in the larynx was evident excepting a bowed action of the vocal cords on phonation. The case would ordinarily be classified as a functional neurosis of the intrinsic muscles of the larynx. But since the intrinsic muscles could not function without cooperation of the extrinsic laryngeal musculature the old habit of studying only the action of the intrinsic musculature in such cases was also evidently wrong. In fact, in this case the action of the extrinsic musculature was also evidently imperfect. Dr. Kenyon believed the trouble to be one of imperfection of vocal technic acquired in childhood, and that the trouble was correctable by vocal training.

DISCUSSION

DR. NOVAL H. PIERCE thought Dr. Kenyon opened up a very interesting field in his attempt to study the extrinsic muscles in the act of phonation. There was no question as to the fact that they had much to do, especially with the singing voice, but he thought it would be difficult to tell whether they were acting properly or not. It was quite easy to tell the actions of the intrinsic muscles. It was not so easy to determine the actions of extrinsic.

DR. KENYON said that in the falsetto voice of puberty and in dysphonia spastica one could observe a definite disturbance in the action of the extrinsic musculature of the larynx. If one was to solve functional disturbances of the voice it must be by observation of the complete musculature on which vocal cord action depends, and not by observing merely one phase of such action.

Dr. Kenyon was attempting to accumulate facts in a variety of functional vocal disturbances. The x-ray might eventually be of service.

DR. ALFRED RUNDSTROM presented two cases of ozena, one a case of genuine ozena, the other of hereditary leutic ozena.

The first case was first seen two years ago. At that time the nasal cavities on both sides were filled with fetid crusts, the meati were wider than normal, the inferior turbinate bone was already atrophic. He had removed the concha media and opened the ethmoid cells and sphenoid sinuses on both sides. A caric-necrotic process was present. The left side had healed perfectly. On the right side there was still some secretion but the bones were covered partly with mucous membrane, partly with granulations.

In the second case also the ethmoid cells, and the sphenoid sinus on both sides were the seat of a cario-necrotic process.

These two forms of ozena resermbled one another very much although different as to the etiology.

DR. MILLARD F. ARBUCKLE, St. Louis, Mo., addressed the Society on "Complications of the Naso-Sinuses."

ABSTRACT

DR. ARBUCKLE said on October 20, 1922, he presented to the St. Louis Pediatric Society a few cases of acute parenchymatous nephritis, sometimes called nephrosis, in which the results following treatment in suppurative diseases in the nasal accessory sinuses, had been sufficiently noteworthy to justify reporting them.

They have had about twelve cases at the St. Louis Children's Hospital and in private practice. In these cases there was marked general anasarca, albumin in large quantities in the urine, casts and red and white blood cells also present in some. In all the cases, except one, suppurative disease in the nasal accessory sinuses was found.

In view of subsequent experience, he believed, there was sufficient evidence in that case to justify the diagnosis of ethmoiditis and sphenoiditis, since the mucosa in the olfactory fissure was red and thickened. In some the antrum alone, either on one or both sides, was involved and in some the upper nasal cells alone were involved. In all cases, except the one just referred to, improvement in the general condition was noted so quickly after improvement in the nasal condition, that it seemed certain the nasal suppurative process was the causative factor for the kidney condition. This single case just referred to died without improvement.

In one case of antrum suppuration seen first February 5, 1922, the results were most striking. The antra were irrigated on several occasions, and quantities of pus were recovered by irrigation. Immediately after this there was rapid loss of edema, and the chemical and miscroscopical findings in the urine at once began to return to normal. After about ten days there was an increase in the edema and in the amount of albumin and microscopic findings. The antra were irrigated and found to contain pus. Improvement like that noted after the first irrigation again occurred. This treatment was repeated on several occasions within a few weeks with similar results in each instance. This case was a fair example of the results obtained in cases of antrum suppuration. In some cases of suppuration of the upper nasal cells, the nose was treated by the installation into the nose of a 1 per cent. mercurochrome (220) solution twice daily. There was rather prompt and continued improvement in the suppurative process in the nose. As in the other case, the improvement in the general condition was parallel to that in the nose. After the urine had become normal generally in ten days to two weeks, these children were placed on normal diet without any recurrence, so, far of the kidney condition after the nasal condition had cleared up.

Prior to the institution of nasal treatment they had failed to respond to the treatment usually given these cases—rest, special diet, etc.

Three cases were reported in detail.

DISCUSSION

DR. L. W. DEAN was much interested because he had had an opportunity to treat a number of cases of nephritis in infants and young children who had suppurative paranasal sinus disease. His results were just the opposite of those obtained by Dr. Arbuckle. All the cases treated, however, were cases of subacute or chronic nephritis. Dr. Dean had been informed that in Portland, Oregon, the same good results in nephritis in infants and young children, as reported by Dr. Arbuckle, were secured by treating suppurative paranasal sinus disease.

DR. EDWIN McGINNIS was much interested because this was confirmatory of some work Dr. Carey had been doing on some interesting cases, the bacteriology of the nasal sinuses and not the pathological condition. They found the Staphylococcus aureus hemolyticus and experimentally could also get a nephritis from an intravenous injection of the bacteria. Recently in the practice of Dr. Gill he had seen a case of Staphylococcus aureus antrum infection and cleaning up the antrum eradicated the nephritic condition.

DR. ARBUCKLE (closing), said that giving gas to these children did not seem to injure them in any way. He believed it to be a general toxic condition of all the cells of the body, and not of the kidney alone, and that it was the cause of a dicturbance of cell tension. Their bacteriological work was being done but was not complete and consequently he did not wish to mention it.

SCIENTIFIC PROGRAM

DR. NORVAL H. PIERCE presented a further report on "A New Method of Closure of the Eustachian Tube."

ABSTRACT

DR. PIERCE said that there were two problems to be considered: First, the closure of the tube and, second, the fixation of the flap over the tympanic end of the tube. He started in by knotting a strand of catgut and passing it up the Eustachian tube after attaching it to a bougie, the knot being sufficient to hold well in the isthmus, and then it was withdrawn through the nose and cut off and then drawn up again into the nose through tympanic cavity and cut off there. This proved unsatisfactory because it often did not hold and he then thought of using a flap. The taking of a flap from the posteriar surface of the mastoid was an old procedure. It occurred to him that by fixing the catcut in the isthmus, the end projecting through the cavum would be sewed through this flap and by anchoring it with a split shot it could be held in contact with the tubal opening, the tube to be well curretted and the tubal cells well broken down so that there would be a raw surface to which the flap could adhere.

He had had seven cases and there was no failure so far as he knew. There was one failure in a case he had not seen since shortly after the operation. That case was in a child who had been operated previously and there was a scar and a fistula from which pus was discharging. The child was tuberculous and the operation did not go well. The stitches had to be removed a day or two after the operation from the wound behind the ear and there was a wound which healed by granulation. When he saw the child about two weeks after operation there was no sloughing, but he had been informed that this had occurred since then. The operation was not so well adapted to cases where a mastoid scar existed. The elevation of the tissues for the flap was much more difficult and there was no doubt that nutrition of the parts had been so materially

decreased that failure might follow by a sloughing of the flap. One charming young woman had a lock of hair growing out through the meatus as a result of the hair being caught in the flap. The last patient operated by this method was dry in a comparatively short time and the hearing was very markedly improved. All the cases were carefully tested out as to the cochlea, vestibular apparatus and the stapes for if there was ankylosis of the stapes no improvement could be expected. In his opinion a carefully performed radical operation increased the hearing for a considerable time. Naturally, the hearing would decrease with advancing years and as the stapes becomes more fixed, but this had nothing to do with the radical operation. There had been no relapses in his small series of cases and the tubes had been sealed. Only time could tell whether the operation would be of any great benefit.

(Dr. Pierce then showed a series of lantern slides illustrating the various steps of the operation.)

DISCUSSION

DR. ALFRED LEWY said he had seen Dr. Pierce perform his operation, and there appeared to be nothing technically difficult about it. Dr. Pierce had very ingeniously developed a method of applying the well known pedicle graft for the closure of the Eustachian tube, and it promised well. The one unsuccessful case mentioned by Dr. Pierce he had seen. The boy was a tubercular subject and had recently been operated by himself for a large subperiosteal abscess, at which time the entire mastoid process was found to be occupied by a cholesteatoma, which was removed, but no plastic was done on account of the condition of the soft tissues. At the secondary operation Dr. Pierce undertook the pedicle flap operation but the stitches all sloughed. It was altogether an unfavorable case for this operation.

The only thing Dr. Lewy could think of that would keep Dr. Pierce's operation from universal adoption in properly selected cases would be for Dr. Bárány's operation, treating the mastoid cavity and the tympanic cavity as separate entities, to prove successful.

DR. GEORGE E. SHAMBAUGH thought that of the numerous suggestions that have been offered for securing a permanent closure of the tube the one offered by Dr. Pierce seemed to assure the best chances of success. He thought it made little difference whether the tube remained open or closed after the radical mastoid, and believed one should always explain to the patient before undertaking the radical mastoid operation that this was not done because of the discharge alone, but because in connection with this discharge the examination had convinced one that there existed a dangerous focus of infection, a caries or a cholesteatoma, hidden away in the attic, aditus or antrum.

DR. SAMUEL SALINGER expressed his pleasure at having heard the paper and at having seen the pictures which made plain many refinements in the details which he had not understood before. A short time ago Dr. Wittmaack published an operation very similar to that described by Dr. Pierce in which he stated that he had performed this operation on one hundred cases, in the majority of which he had obtained a splendid result. Dr. Salinger had tried the operation in two cases at the County Hospital, in both of which the flap had sloughed. He thought this was not due to the operation but to the operator, for he could see that several differences existed in the technic as they had performed the operation and that demonstrated by Dr. Pierce. In one case they did this operation on one side and the flap sloughed; a few weeks later they performed a radical mastoid on the other side and did the Bárány operation with very good results. They had done two subsequent operations by the Bárány method with excellent results. In all the cases they found an incomplete pneumatization and a very shallow mastoid cavity, so all they had to take care of was the aditus and tympanic cavity. In both cases the posterior wound seemed to heal by granulation and the tympanic cavity derived its covering from the intact meatal covering. He thought in this type of mastoid (sclerosis with few or no cells) any plastic was unnecessary, for by leaving the membranous meatus intact the shallow mastoid cavity was shut off from the meatus, healing by granulation, while the epidermis grew in more rapidly to line the tympanic cavity and tubal opening.

DR. EDWIN McGINNIS said that at the last meeting of the Clinical Congress of Surgeons, Dr. Smythe of Boston demonstrated a new radical mastoid procedure. He makes a flap of the posterior portion of the external canal. This could be used to sew into the Eustachian tube by the Pierce method. He had exhibited four or five cases; there was no sloughing of the flaps, and the results were excellent.

DR. ROBERT SONNENSCHEIN said he had had the privilege of seeing Dr. Pierce perform one of these operations and that it was a very beautiful performance. While it was true, as Dr. Shambaugh stated, that it was not absolutely essential to have a perfectly dry ear, it was a great desideratum, and if this or any other method would give a dry ear it would be very pleasant. Not only the operative skill which Dr. Pierce possessed but his very careful attention to the details of after-care probably accounted for his success.

DR. CHARLES H. LONG reported a successful closure of the tube by skin grafting according to the technic of E. Hamilton White of Montreal, which was published in the Journal of Laryngology and Otology of Edinburgh, Scotland.

On August 24, 1922, a radical mastoid operation was performed on a male patient fourteen years of age. On September 7th, or fourteen days after the radical operation, an exact cast of the bone cavity was made by pressing into it a piece of modeling compound. When this hardened the cast was removed from the wound and a skin graft taken from the arm was laid over it with the cut surface outward and it was then pushed back into position. Seven days later the cast was withdrawn through the retro-auricular opening. November 15, 1922, the Eustachian tube was found closed and the ear was dry. At no time had the patient experienced any pain or discomfort. Dr. Long thought further experience was needed before this simple procedure could be recommended as a result method for closure of the Eustachian tube, or for shortening the usual long drawn out after-treatment of post-operative mastoids.

DR. HARRY L. POLLOCK thought that so few of the radically operated ears discharged from the tube that it was not necessary to attempt to close the end at the time of the operation. A few weeks after the radical operation it was very simple to close the pharyngeal end and in those cases where the persistent discharge occurred they closed it up with little trouble in every case simply by pulling out the mucous membrane of the pharyngeal end and clasping it together. In practically every case the Eustachian tube closed following this and there was no further trouble from discharge in the mastoid cavity. They had never attempted the operation described by Dr. Pierce, but if it was so simple Dr. Pollock believed it should be done at the time of operation rather than four or five months later. He saw no reason why it should not be successful in every case.

DR. PIERCE (closing), said Dr. Shambaugh was not the one to be considered regarding the discharge—it was the patient and the patient regards a running ear after an operation a failure in the operation.

He disagreed with Dr. Pollock that these running ears occurred so infrequently that it was a matter of no importance as to the closure of the tube. The literature gave from 45 to 50 per cent of failures as to running ears after an operation.

It was true that Wittmaack published an operation a little while before Dr. Pierce's was published, but the operations were different to the extent that Wittmack does not fix his flap as Dr. Pierce fixes his, in the mouth of the Eustachian tube, and Dr. Pierce thought this was perhaps the most important part of the technic.

Regarding the operation of Professor Bárány, that was probably done on cases which he would not operate upon at all; cases of arrested pneumatization with a slight discharge

from the ear did not require an operation and where a large cavity existed with a large cholesteatomatous mass this operation was not to be thought of and one did not have to have any experience with Bárány's operation to realize this. Schwartze, who inaugurated operations on the mastoid, treated the chronic cases in just about the way Professor Bárány does at present. He made no flap, but treated the wound from back of the ear and the failures in these cases were so numerous that the radical operation was devised to more frequently insure success. He thought all would agree that if one operation could accomplish what two would do it was better to do it in one.

DR. GEORGE W. BOOT said that as Dr. Bárány was not present to defend himself he thought some one of those who took his course should mention the fact that Professor Bárány stated definitely that he performed his operation in cases of cholesteatoma.

DR. PIERCE, replying to Dr. Boot, said he did not wish to assault Professor Bárány. He said, and repeated, that the operation as performed by Professor Bárány was, in his opinion, inapplicable to large cholesteatomatous growths in the mastoid.

DR. AUSTIN A. HAYDEN presented a paper entitled: "Fifth Year Oto-Laryngology in General Hospitals." (Preliminary Presentation).

ABSTRACT

The scope of this paper was limited to the consideration of oto-laryngology in the graduate, hospital or fifth year of medicine. *Post*-graduate teaching is entirely another matter with Phillips, Shambaugh and others have dealt with ably and thoroughly. The term "General Hospitals" was meant to include the typical average better grade institution of 100 beds or more with rotation interne service, the men serving successively for given periods of time in the Laboratory, Obstetrical, Medical and Surgical Departments. This excluded special hospitals, and those with *single* non-rotating house services, where a whole year is spent in one department, as well as those having a special eye, ear, nose and throat interne while the rest of the house staff rotates.

The teaching in diseases of the ear, nose and throat should properly come from the attending oto-laryngologists.

The fifth year requirement, inaugurated a little more than a decade ago and still largely in the formative period, had in reality created a new National American Medical School whose field is just above the *under*-graduate and just below any sort of *post*-graduate instruction or the years of practice that are to follow. It is an in-between period in which the student is no longer a student on the benches, nor is he yet a full fledged Doctor of Medicine. The student body numbered 2,529 last year. It would be considerably larger in 1922-23. The average age was somewhat over 27. The per capita investment had been variously estimated as between $10,000 and $20,000, or from $20,000,000 to $40,000,000 in all.

Dr. Hayden said that to present a complete survey of this whole subject would be manifestly impossible and entirely inadvisable, and after analyzing the actual oto-laryngological work done in a 166 bed hospital, with which he was familiar, he gave the following conclusions:

"1. Oto-laryngology forms a very considerable part of the work of the average general hospital. For that reason internes are entitled to a proportionate amount of training in this department.

"2. A curriculum carefully worked out by oto-laryngologists and followed by them in their own hospitals would equip the general practitioners of the future with a broader and more practical knowledge of the diseases of the ear, nose and throat.

"3. From these more systematically trained physicians undoubtedly adequate numbers would be attracted to this specialty after having spent a number of years in general practice or suitable post-graduate work.

"4. If advantage is not taken of this opportunity oto-laryngology will gradually but surely lose its identity as a specialty and be merged into general surgery or general practice.

"5. A standardized curriculum for systematic fifth year instruction in all departments of general hospitals might prove to be as long a step forward in the further development of modern medicine as was the standardization of the medical college itself. Oto-laryngology, if it will but lead the way, can render great and lasting service to organized medicine."

DISCUSSION

DR. GEORGE E. SHAMBAUGH considered the subject presented by Dr. Hayden as an extremely timely one. Dr. Shambaugh felt that the solution of the question as to what should be attempted in the general hospitals along the line of educating the internes in oto-laryngology was not difficult. The point should be kept clearly in mind that the fifth or hospital year should not be looked upon as a graduate year, but as a part of the undergraduate medical training and as intended to round out the clinical experience of the undergraduate student where the work in the previous years had, in a sense, fallen down. When planning the work for the fifth year in hospitals this fundamental fact should be kept in mind, that the object of undergraduate work in medical training is to prepare men to be general practitioners. Those who are most interested in medical education agree that the training for undergraduates in the various special fields should not include training in operative technic. He believed that the general surgeon had been slower to appreciate this fundamental fact in undergraduate medical training and that what is required as applied to the operations on the ear, nose and throat, applied in equal force to general surgery. The principles of either one of these subjects and the problems encountered in practice were proper subjects for introduction in the undergraduate curriculum, but operative courses and surgical clinics should be largely dispensed with. These should form an important part of graduate training for those who are going into special practice, whether this be oto-laryngology or general surgery.

Regarding the field of oto-laryngology Dr. Shambaugh felt that a great deal of harm is being done by efforts to teach the general medical student the technic of operations either in the college years or in the fifth year. One should always bear in mind that it is a relatively simple matter to teach a man how to do an operation, but it is much more difficult to teach him to recognize when to do these operations. To train general practitioners in the technic of operations in oto-laryngology was only preparing men to increase the flood of unnecessary operations on the nose and throat and particularly upon the tonsils that has been flooding the country in recent years.

DR. JOHN MILTON DODSON found himself thoroughly in accord with Dr. Shambaugh about the limitations of the field

and agreed heartily with him that the interne year was not a graduate year at all. One of the reasons given for making it a requirement for graduation was to emphasize that very fact. He thought all would agree that no young man could safely be trusted to go into independent practice before having practiced for a considerable period under the immediate supervision of an older, more experienced man. The interne year was not new. For fifteen years the majority of students have sought to secure and serve internships. The few schools that have taken the step in the last five or six years to make it a requirement for graduation have done this in order to get the interne year under supervision of the faculty so that they may advise them and assist them in the selection of internships and thus get some control over the work they do in the hospitals and, secondly, supervise this phase of the hospital's work. The great purpose of the movement is to make the hospitals do better work, have better supervision over the internes and realize their responsibility to the internes.

Dr. Dodson thought Dr. Hayden's figures were rather excessive, that the average expenditure of medical students would be as high as he indicated, but they had invested enough.

As to the number of internes required, he thought Dr. Hayden's figures were far too small. The 482 hospitals that had been approved by the Council on Medical Education of the A. M. A., by no means represented the thousands of hospitals in the country that needed internes and were entitled to them. If all the hospitals which could provide reasonable opportunities were to demand internes in the right proportion—not over twenty to twenty-five beds to the interne, especially on the medical side—the number of internes would not be anywhere near sufficient. The acute problem was how to provide resident service for all of the hospitals, which are rapidly increasing in number.

Dr. Dodson thought the oto-laryngologist should do a certain amount of teaching, but he should bear in mind constantly that so far from attempting to teach the technic of operations to the young men he should be constantly emphasizing the fact that they should not attempt many of these operations. It was not a question of knowing *how* to operate, but *when* to operate. He believed no man should hold himself out to the public as fit to undertake these operations until he had been at least five years in general practice and then had spent at least one, preferably two, years under favorable conditions for special training in that particular line.

Dr. Dodson thought it was hard to see how the students could be taught much oto-laryngology in the fifth or hospital year. The hospital is first of all for the care of the sick and no other phase of its activity can be permitted for a moment to prejudice in any way the welfare of the patient. There was no question that for the patient's interest and for the comfort of the attending man the service of a young man for a whole year in one department, e. g., medicine, is much better than service in a department for only two or three months. The young man should follow a year by a year or a half year in surgery, learning the principles of surgery. Even in the rotating service Dr. Dodson could not see how anyone could teach much oto-laryngology unless the student was restricted entirely to that service, as he is at the County Hospital, for three months.

He believed the solution was in the very beginning of the organization of the interne year and thought the time was coming soon when hospital staffs must be organized into an intelligent teaching unit. He thought it should be possible to so arrange the work that an interne on the medical service would have an opportunity to learn all he needed to learn in oto-laryngology and ophthalmology while serving his year as a medical interne, and that the staffs of the several hospitals where internes go should be alert about this matter, should recognize and give study to the pedagogics of the interne year just as the faculty of the undergraduate school must do in order to get good results.

DR. J. HOLINGER thought that what an interne learned in a hospital was a personal question of the interne. Everybody liked to teach a boy who was eager to learn. For those that dodge the work, the colleges ought to give authority to the hospital staff to make them do their duty. He thought it advisable for the student to own his forehead mirror, ear and nose specula, for he would use them and learn much by doing so.

DR. ROBERT SONNENSCHEIN said that in former years the men who were recognized as specialists were those who after leaving the hospital in which they had served an internship had taken a course in some special branch or had worked with a man doing such work on the living or cadaver before proclaiming themselves as specialists. In the last four or five years a great many of the younger men had specialized immediately upon leaving the hospital. If through the kindness of the men on the staff the internes could be taught the technic of the operations they may have to do if they expect to do country practice, or if they intend to take up a specialty, it was all very well, but on the other hand it was a question whether all the operations must be turned over to the internes, as is the case in many hospitals.

Dr. Sonnenschein believed that the only cure for this generalized operating by internes would be for the general hospitals that have a rotating service to have an agreement regarding the operating to be done by the internes. There would then be no advantage in going to any particular hospital merely in order to get plenty of operating, whether the man showed by his attention to duties that he deserved the operative work or not.

DR. EDWIN McGINNIS said that he had worked out a scheme of having a hospital interne act somewhat as an assistant. He tried to teach these men how to use a local anesthetic and to anesthetize the throat properly so that they might become competent in examining patients and could handle the patient afterward, trying to teach them all the complications that might arise following an operation. He thought it was difficult to do much for the interne so far as the nose was concerned. In his experience with fifteen or sixteen internes not one of them had expressed their preference for oto-laryngology.

DR. L. W. DEAN (Iowa City, Iowa), said that of his five internes one had had a service in internal medicine, each of the others had had a rotary service. Each of the four internes who had had a rotary service had operated on many cases for the removal of tonsils. They felt that they could do the work well when, as a matter of fact, they were not capable of properly performing the operation. Dr. Dean believed that the performance of operative work by internes before they had been properly prepared for this work could only be prevented by the education of the members of the clinical staffs of the hospitals or perhaps by bringing pressure to bear upon the hospitals to see that these things were done correctly.

DR. GEORGE W. BOOT thought it was impossible to take any one part of the body and separate it from the rest and that one could not take any part of a hospital and separate it from the other. According to Dr. Hayden's figures about one-fourth of the hospital cases belonged to the ear, nose and throat department and the interne taking a general service should be entitled to some knowledge of ear, nose and throat work. Another feature was the limiting of the ear, nose and throat work to specialists. He thought that all medical work was not limited to internists or all surgical work to surgeons.

DR. NORVAL H. PIERCE expressed the opinion that the interne body was getting very cocky. They have quite well founded ideas and among them is the idea that they shall take out tonsils. Dr. Pierce thought that the legitimate indications for a tonsillectomy could be easily acquired. The mere removal of the tonsils did not constitute the main part of the job; it was laying the foundation in an individual of a certain moral standard, and that was a very difficult thing. It was making a man who has a large family and very little money, rather than break through that moral code, tell a patient who did not need to have his tonsils out, "No, you do not need to have them removed." He confessed that he was ashamed of his educational neglect of the internes in the hospitals he attended. There was no training of internes. He agreed with the statement of Dr. Dodson that the first requisite of the hospital was the care of the patient. Anything that came in conflict with that was wrong, but they must face the situation of education, not only of nose, throat and ear internes, but the whole interne body.

DR. JOHN MILTON DODSON agreed that the vital thing to teach any interne was the proper examination of the patient. One of the serious mistakes under the present system was the way patients were assigned. They hope soon to have every patient that comes to the dispensary go to the department of general medicine first for group study and diagnosis, as they do in the Massachusetts General Hospital. The interne should not be permitted to report the examination of any case until he had examined the nose, the tonsils, the ear and every other part of the body.

As to the cockiness of the internes, Dr. Dodson thought that was a perfectly obvious result of the demand exceeding the supply and that the only way to overcome it was to make the fifth year a part of graduation.

DR. AUSTIN A. HAYDEN (closing) thought Dr. Dodson had misunderstood him as meaning to develop specialists out of the general hospital service. He believed men who were not working in a general open and closed staff hospital did not realize the limitations of such a hospital. There were only two hospitals in Chicago that had the single non-rotation service, the Presbyterian and St. Luke's. These men are going out with an unlimited license to practice any sort of medicine, that their patients bring to them to take care of. He believed the first thing the average young man would be called upon to do would be to take care of an obstetrical case. They could do this much better for the patient if they had been properly trained in obstetrics by an efficient obstetrician. By the same token, he believed that any interne was soon going to take out some tonsils and felt that if the interne had been as well grounded in the hospital as time would permit by such men as constitute the membership of the Chicago Laryngological Society he would do much less harm to the patients who came to him in private practice.

In his opinion the day of the old family practitioner has entirely passed, or at least he had been supplanted by a new variety of medical man.

CHICAGO OPHTHALMOLOGICAL SOCIETY

Clinical Meeting December 11, 1922, at the Cook County Hospital.

Dr. Francis F. Lane, President.

Medical Ophthalmoscopy.

Dr. George F. Suker exhibited a series of over forty cases which showed pathology of the retina, choroid and nerve-head. This presentation gave evidence of the possibilities open for intensive study of the ocular complications of primarily medical cases, if systematically taken advantage of in a large general hospital.

Adenoma of Hypophysis.

Dr. B. W. Lowry reported a case of hypophyseal adenoma in a negro and exhibited the brain. The patient was a male, 29 years old, first seen, October 14, 1922. He complained of blurred vision in the left eye, double vision, headaches and nocturia of about ten months' duration. The blurred vision was the first symptom noticed. Vertigo sometimes accompanied the headache. The latter at these times increased in severity. The patient stated that he had a ravenous appetite and had gained thirty or forty pounds in the last three years. Nocturia had recently become a definite complaint, the patient getting up three or four times every night.

The patient was extremely well developed and well nourished, unusually intelligent and apparently not acutely ill. His temperature was 98° F., pulse 64, respiration 20. The blood pressure was 120-80, pulse pressure 40. General physical and neurological examination was essentially negative There were no abnormalities of the genitalia, no change in distribution of hair, no paralyses, no abnormal reflexes and no atrophies.

Right vision was 20/200; left 10/200. Fundus examination at the time of entrance was entirely negative. A perimetric chart was made and a typical bitemporal hemianopsia was found, with no scotomata in the remaining visual fields. A positive Wernicke pupil reaction was demonstrated. No exophthalmos was present. The sugar tolerance on a fasting stomach was found to be between 300 and 400 gms. The functional tests on the ear were essentially negative for localization. The blood and spinal fluid Wassermann reaction was negative. X-ray examination of the sella turcica was negative.

The headaches became almost unbearable despite massive doses of potassium iodid. There was vomiting of the projectile type. A slight edema on the nasal halves of both discs was first noted November 3rd. The patient became unusually confused and stupid. The pulse rate varied from 60 to 80, the temperature was persistently sub-normal.

A right sided subtemporal decompression was performed on November 11th. Marked increase in intracranial pressure was demonstrated. The compression symptoms were somewhat relieved following operation but the patient became gradually comatose and died on November 24th.

Postmortem examination was limited to the head. On opening the calvarium a large quantity of cerebrospinal fluid escaped. The brain was under marked tension, the convolutions being definitely flattened. The sella turcica was unusually large, measuring about 5 cm. in depth by 3 cm. in width and the rim and clinoid processes were entirely destroyed. Occupying the region of the hypophysis was a large, soft, hemorrhagic tumor mass, about 6 cm. long by 3 cm. broad. Microscopically this was found to be a typical hypophyseal adenoma, containing chiefly basophilic cells of anterior lobe origin, thin poorly developed blood spaces and considerable hemorrhage, both old and recent.

The case was considered of unusual interest because it presented hypophyseal tumor with marked neighborhood manifestations and inconspicuous glandular symptoms. There was a typical bitemporal hemianopsia with macular involvement, indicating a lesion of the posterior chiasm; marked diminution of visual acuity; a perfectly normal nerve head, with only very late development of papilledema, and a positive Wernicke sign localizing the lesion anterior to the primary optic ganglliae. The usual early disc pallor was not demonstrated in this case. The symptoms of disturbed gland function were: A persistently subnormal temperature; normal blood pressure which, considering the degree of increased intracranial pressure might be considered low; a marked increase in body weight; a very high sugar tolerance and polyuria.

DISCUSSION

DR. JULIUS GRINKER said, the case showed a typical hypophyseal tumor with the clinical symptoms. One negative symptom was the absence of atrophy of the optic nerve; the fundus was reported to have been perfectly normal in appearance, and vision was not markedly affected for bitemporal hemianopsia. This reminded him of a case of acromegaly which he studied for a good many years. He presented the brain at a meeting of the Chicago Neurological Society, and found a condition which explained the appearance of a normal fundus and the absence of the restricted field of vision. The hypophyseal tumors were capable of gradually expanding the chiasm, in such a way that almost a spider web was left; and as long as anything was left of the chiasm the vision might remain normal, and the appearance of the disc show nothing unusual. He thought this might explain the pupillary findings in the present case. In his own case he preserved the chiasm and it looked like a very fine network. He thought this was the only explanation of Dr. Lowry's case and asked him if he saw the chiasm postmortem.

DR. LOWRY replied that there was so much hemorrhage around the tumor that it was impossible to see the chiasm.

DR. GRINKER thought the case was very classical, except for this, and he inquired whether there were symptoms of acromegaly or abnormal growth of any kind. Hypophyseal tumors of any duration gave symptoms of this disease.

DR. GEORGE F. SUKER said the patient was studied carefully while he was in the ward, and they concluded to do a decompression to save what vision there was. The effect of the decompression was good, but the tumor was inoperable. The size of the tumor should have given better pictures of the sella turcica upon X-ray examination. They made a diagnosis of pituitary tumor, but the X-ray gave no evidence that would warrant anything but a subtemporal decompression. He believed that the conception of what was an enlarged sella turcica was as yet an open question. The patient might move slightly and change the picture because of the fore-shortening, and he believed this was what had happened in this case. The brain upon exposure was under marked pressure; but he did not advise anything except slitting the dura and fenestrating the pia and arachnoid, to prevent excessive hernia. This operation relieved the pressure, headache and the papilledema disappeared within seventy-two hours. This latter was quite marked on each nasal side of the discs and was the deciding factor in advising a subtemporal decompression.

DR. MICHAEL GOLDENBURG said he had noticed on several occasions, that although the sella turcica was not enlarged reference was made to erosin of the posterior clinoid processes. In reference to the skiagraphs, he had three cases in one family of primary atrophy, where the X-ray examination showed a bony wall extending from the anterior clinoid process to the posterior. Stereoplates disclosed that the sella turcica was entirely normal. He asked if there was any erosion of the clinoid processes in the present case.

DR M. H. COTTLE said they had examined the patient twice in the ear department and found a marked diminution of inward past pointing; which Barany and his followers considered as almost diagnostic of abscess of the frontal one-half of the cerebrum. The inward past pointing consisted of having the right arm past point out, but the left arm would not past point in; and if nystagmus was produced in the opposite direction the left arm would not past point inward as much as the right arm would past point outward.

DR. GRINKER said that the neutrologists, who depended so much upon the X-ray for the diagnosis of hypophyseal tumor, took a great deal of stock in the erosion of the clinoid processes as indicative of disease, and giving indications of tumor. He considered this finding almost as valuable as enlargement.

DR. WILLIAM H. WILDER was impressed with the acuteness of the case, and thought this might account for the absence of any symptoms of acromegaly. Had the progress of the disease been slower, they might have developed. He had noticed in two or three cases of hypophyseal tumor, that before any characteristic contraction of the field of vision appeared on the temporal side, some involvement of the fibers of the macular region, causing impairment of the central color sense was found. There was a scotoma for red and green, much as in a neuritis of toxic origin. Later there gradually developed the characteristic contraction of the temporal fields, giving the typical bitemporal hemianopsia. While there was no reason for this to occur frequently, one could conceive of pressure in certain points of the chiasm that would give this phenomenon.

DR. LOWRY, in closing, agreed that the case was very unusual, and that there were very few signs of actual disturbance. The sugar tolerance was raised slightly; but there was no dryness of the skin, or other symptoms to make them think of hypophysis. The papilledema developed just before death.

FIBROSARCOMA OF ORBIT

DR. E. B. FINK presented a case of fibrosarcoma of the orbit. The patient was a white boy, aged 7 years, who was first seen on November 7, 1922, complaining of a rather rapidly growing tumor mass above and behind the right eye. The mother stated that this mass was first noticed several months before and there had been two previous attempts to remove it by operative procedure. Examination revealed a small, rounded, slightly, movable and nonfluctuating tumor mass at the upper, inner rim of the right orbit. The eye was proptosed considerably and there was a definite limitation of upward and inward movement. Vision in this eye was 20/35. Fundus examination was negative. Skiagrams of the orbit revealed no additional or subtraction bony shadows, and the para-nasal sinuses were clear.

The child was operated on under general anesthesia on November 13, 1922, and a solid, circumscribed, retrobulbar tumor (1 by 2 in.) was removed. It did not involve the periosteum and the bony surfaces of the orbit were smooth. Microscopic examination revealed a tumor composed chiefly of connective tissue, containing at one corner a considerable number of large oval cells with deeply staining nuclei, and many miotic figures characteristic of fibrosarcoma. The incision was in the supraorbital line, extending down the bridge of the nose, and the tissues were deflected down to the bone. The tumor mass was dissected out, completely exposing the periosteum and bone. It was entirely outside of the optic nerve, only causing pressure on the eyeball because of its size.

The interesting feature of the case was the age of the patient, the nature of the primary tumor, and the excellent prognosis regarding metastases and the tendency to local recurrence. These fibrosarcomata were locally malignant and often appeared in very young individuals.

DR. ROBERTSON presented a case of retrobulbar neuritis following intravenous injection of salvarsan. The patient was a white male, aged 39 years, a laborer, who entered the Cook County Hospital complaining of poor vision. He stated that ten months previously he had received treatment for syphilis, receiving six intravenous injections of neosalvarsan in a period of two weeks. Three weeks later he noticed for the first time a haziness and dimness of visual acuity. He was not a heavy smoker and drank alcoholic beverages only at infrequent intervals.

Examination revealed R. V. 8/200; L. V. 20/65. This vision was not improved by glasses. The fundus was negative, except for a slight pallor of the nerve heads. Perimetric fields were taken and a bilateral

central scotoma was demonstrated for both red and green. A diagnosis of chronic retrobulbar neuritis, with early descending optic atrophy, was made; and the patient was put upon daily injections of 1/4 gr. pilocarpin and active purgation. On November 27, R. V. was 10/200; L. V. 20/50.

On December 8, R. V. 20/100; L. V. 20/30. On December 10, R. V. 10/100; L. V. 20/30. Perimeter chart, at presentation, showed a central scotoma for red only. The patient was presented because it was believed to be a case of chronic retrobulbar neuritis, following intravenous injections of neosalvarsan, and because of the rather marked improvement in visual acuity following a three weeks course of active sweating and purgation.

DISCUSSION

DR. GEORGE F. SUKER said this case appeared shortly after a notice was sent out by the U. S. Government regarding certain lots of neosalvarsan. This patient had an intensive course of treatment, possibly with the decomposed arsphenamin, which was very toxic when old and the arsenic content was very strong.

This recalled four or five cases he saw during the war, while stationed at Camp Custer, with a typical arsenical poisoning of the lateral ventricles and the pons. They gave the symptoms of hemiplegia. One of the patients was brought into the hospital after he had fallen off the door step of the barracks, and a decompression was done for a supposed cranial fracture and dural hemorrhage. Postmortem examination of the brain showed a typical picture of arsenical poisoning. Shortly afterward he had three other cases, following intensive courses of neosalvarsan, and these also gave the same postmortem picture of the brain as the first one.

He believed the man presented had received treatment with decomposed neoarsphenamin and that the retrobulbar neuritis was the result of that medication. The government had cautioned against the use of this drug.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The regular monthly meeting of the Chicago Laryngological and Otological Society was held at the Hotel Sherman, Monday evening, January 8, 1923, at 8:00 p. m.

The President, Dr. Charles H. Long, in the chair.

Presentation of Patients and Specimens:

DR. CHARLES H. LONG exhibited a patient with harelip and cleft palate.

The patient was a Norwegian man, aged 34 years, who was born with a cleft palate and hairlip. He had had nasal obstruction since birth. The family history was negative. He was one of seven children, three of whom were dead.

The point of interest was the large amount of lympatic tissue which could be seen in the nasopharynx and nose and the advisability of doing any operation. He had been operated upon for hairlip when a baby. His mentality was that of a boy of fifteen but was said to be improving. Dr. Earl Thomas, assistant to Dr. T. W. Brophy, had examined him and expressed the opinion that no operation would be of value at this time. He believed that such apparatus as a dentist could manufacture would do all that could be accomplished.

DISCUSSION

DR. ELMER KENYON stated that Gutzmann had studied cases with adenoids in connection with cleft palate and had decided that unless there was an extremely good reason for removing the adenoids they should be left alone. If they are removed the voice is invariably made worse, as the adenoids serve as a sort of obturator. Gutzmann thought not much could be said in favor of removing the adenoids, except in cases where breathing space was necessary, when a partial adenoidectomy was the proper procedure. He argued that in the cleft palate class of cases, in which the middle ear was always prone to infection even with a free nasopharnyx, there was not the same imperative reason as exists in cases with a normal palate for removing the adenoids to protect the ear.

DR. LONG (closing) stated that Dr. Sher expected to remove enough of the tissue to give the patient nasal breathing space and that he would then turn him over to the dentist to have the proper apparatus constructed.

DR. GEORGE W. BOOT presented some foreign bodies which had been removed from the bronchi and esophagus of various patients. The first was a piece of bone which had been impacted in the throat of a Scotchman who had swallowed it while eating mutton broth. Great difficulty was experienced in dislodging it.

The second specimen was a peanut which a colored boy of three had inhaled and which had been removed from the right bronchus.

The third specimen was another peanut which had been removed from the right bronchus of a boy of three. This was the only patient Dr. Boot had ever had who had died from bronchoscopy. The peanut, which was too large to be removed through the tube, broke just as it was passing the vocal cords and before he could secure another hold on it the boy choked to death.

The fourth specimen was a tack which had been imbedded in the left bronchus of a baby eleven months old for six weeks.

The fifth was a black-headed steel pin, 4 cm. long which had been inhaled and had shifted to various places. The first picture showed it in the right bronchus. The following day x-ray examination showed the pin in the trachea and the next day in the right bronchus. Every time the boy coughed the pin changed position. When extraction was finally attempted the pin was in the trachea and the boy coughed it out as soon as the bronchoscope was introduced between the vocal cords.

DR. GEORGE E. SHAMBAUGH addressed the Society on "The Structure and Function of the Crista Ampullaris," with lantern slide demonstration.

(Author's abstract).

Dr. Shambaugh pointed out that an accurate knowledge of the anatomical details in the semicircular canals and vestibule were essential before attempting to analyze the reactions which result in the stimulation of the end-organs. Such a knowledge is all the more essential because these reactions are physical and should, therefore, permit of analysis better than can be done for most end-organs.

Three hypotheses have been advanced to account for the phenomena associated with the rotation experiment. First, the Breuer hypothesis, namely, that on starting and on stopping rotation there is but a momentary impulse given to the endolymph in the semicircular canals. This momentary impulse displaces the cupola. This displacement of the cupola results in the stimulation of the hair cells of the crista which stimulation continues until the cupola is gradually drawn back into position. During this period the patient experiences the sensation of being rotated and there develops a nystagmus with the quick component in the direction of rotation. Second, the

Bárány hypothesis, which is that a momentary impulse to the endolymph arises on starting and stopping rotation. This momentary impulse sets off stored centers of energy which continue to act until exhausted. During all this period the patient experiences the sensation of being rotated and there is a nystagmus. The *third hypothesis* is that the duration of the phenomena resulting from stimulation of the end-organs lasts only so long as this stimulation lasts and the duration of the stimulation is dependent upon the duration of the pressure of endolymph resulting from inertia both on starting and on stopping rotation.

Dr. Shambaugh contends that the hypothesis which best accounts for the phenomena is the one that should be accepted. The only hypothesis that explains in a plausible manner the phenomena of rotation referred to above, also the phenomena in the fistula cases and the caloric reactions, is that the duration of the reaction is the same as the duration of the peripheral stimulation which is the same as the duration of the endolymph pressure or movement.

He next discussed the question of labyrinth tonus and explained why it is that the tonus impulses from the right ear produced movements toward the left and those of the left ear toward the right. He explained how certain phenomena in the rotation experiment are accounted for as phenomena of fatigue. These were that the greatest duration of nystagmus after rotation follows approximately ten rotations and that either a longer or shorter period of rotation gives a lesser response; also the phenomena of the after-after-nystagmus described by Bárány and the obseravtion that when a patient is being rotated steadily in one direction the moment the nystagmus produced during rotation disappears there develops for a few moments a nystagmus in the opposite direction although there has been no retardation in the speed of rotation.

DISCUSSION

DR. J. HOLINGER expressed his thanks to Dr. Shambaugh for his clear presentation of the founction of the crista ampullaris and said the intention of physiology has been from the beginning to reduce the complicated functions of the body to simple laws of physics and chemistry. If we did not succeed in this it was either because we did not understand the functions, or because we did not know the laws of physics and chemistry which governed these functions: Therefore recourse was often had to complicated and undigestible theories. He thought very few people could understand Helmholz's book. The mathematicians say it contains too much physics and physicists say that it contains too much mathematics. Siebenmann and others have succeeded in explaining to a great extent the function of the cochlea. Bárány, Jones, Shambaugh, Ewald and others did the same for the vestibulum and semicircular canals.

DR. ALFRED LEWY said that Dr. Shambaugh's work and ideas had greatly strengthened the arguments in favor of endolymph flow as the causative factor in labyrinthine nystagmus and allied phenomena, but his theory that the duration of the induced phonomena was dependent upon the duration of endolymph flow failed to explain several things. According to Bárány, after-nystagmus may last anywhere from three or four to sixty seconds or more in normal individuals. It hardly seemed possible that the anatomic physical conditions that are the causative factors of endolymph flow can vary so widely in normal human beings. There certainly must be a powerful neurological element. One must consider the varying sensitivity and interaction of nerve cells. Especially unexplained is the fact that in the same individual, under the same stimulation, on different days, or even on the same day, with the question of fatigue eliminated, the duration of nystagmus and especially of vertigo and nausea may vary. Nor could it be explained in all cases by the development of inhibitory impulses, as seen in trained aviators and whirling dervishes. As a working hypothesis Dr. Lewy though Dr. Shambaugh had presented the case very strongly, but one must keep in mind that other elements, largely neurological, beside end-organ stimulation by endolymph movement, enter into it.

Dr. Lewy also wished Dr. Shambaugh to tell something of muscle tonus in people with congenital absence of, or destruction of both labyrinths.

DR. ROBERT SONNENSCHEIN said that aside from the fact that Dr. Shambaugh always seemed to have a very lucid way of demonstrating anything, a very important fact to be remembered was that it was the careful study of the anatomy of a structure that would enable one to understand the physiology. He remembered the wonderful specimens produced by Dr. Shambaugh when he first did work out at the University of Chicago, many of which had been exhibited at the Congress of Budapest, where they had been much admired and complimented.

One point not mentioned in this discussion but which he had heard Dr. Shambaugh speak of several times, particularly when in Washington at the meeting of the American Otological Association, was the point against the Helmholz basilar membrane resonance theory, as regards the large blood vessel which lies just below this membrane. Since it is known in physics that a resonator attuned to a certain pitch always acts for that tone one can assume that the basilar membrane, if it is the resonator, cannot act uniformly since the large blood vessel situated just beneath it would vary in its lumen according to the amount of blood supply running through it, and the force of the heart beat.

Dr. Sonnenschein again emphasized the fact that the important thing in addition to those mentioned was that a careful study of the anatomy of any part was essential to the study of the histology thereof, and thereby often its phsiology.

DR. GEORGE W. BOOT thought that without any doubt tonus originates in the labyrinth but he believed there was considerable doubt that it originated solely in the crista. There are three different places where it may originate, the crista the macula and the organ of Corti. These three end-organs are stimulated by different motions. The organ of Corti by stimulation of vibrations in the endolymph, the crista by currents in the endolymph and the macula by movements of the crystals in the otolithic membrane due to their inertia. If the crista is stimulated by pressure one should be able to produce nystagmus if the canal is blocked off distal to the crista and the patient rotated, for pressure would be produced on the cupola even though the endolymph could not move. He thought this experiment had never been tried. If the tonus was the result of the to and fro movement of the blood in the vessel, the question was the same as in the eyeball. In the eye one could watch the vessels with the ophthalmoscope and see the vessels under considerable magnification. There is absolutely no movement in the vessels with circulation under normal conditions. He thought the theory that there is to and fro movement of the endolymph and perilymph with the pulse was not tenable for if it occurs one should be able to see it in the eyes where one can see and study the circulation under magnification in an organ less rigid than the labyrinth and where to and from motion should occur more easily.

Another point was in relation to the duration of the nystagmus. Dr. Shambaugh thought the current was kept up longer because of endolymph in the utricle. Dr. Boot thought this theory was not plausible. If a vessel, a pail, is filled with water and a hole made in the bottom of the pail the water comes out with a force that has no connection with the amount of water in the vessel but solely with the height of the water.

If a vessel shaped like a semicircular canal and uticle be filled with liquid and rotated so as to set up a current in the canal and then stopped suddenly, there will be no variation in the amount of current set up in the canal with different sizes of vessels.

DR. FRANK J. NOVAK asked whether the distribution

of the nerve fibers in the crista ampullaris had been determined histologically and what the histologic structure of the cupola was. Also what was the effect, if any, of vascular hypertension and various heart lesions, such as arctic regurgitation, or labyrinthins tonus.

DR. GEORGE E. SHAMBAUGH (closing) said that any one of the questions asked opened up a field for possible endless discussion pro and con. He believed that the explanation which accounts most readily for the phenomena was the nearest to the proper solution. In order to get anywhere with such problems it is most important to keep our explanations as simple as possible, for only in this way can progress be made.

Dr. Lewy's questions were very pertinent and Dr. Shambaugh was sure that the duration of the nystagmus as compared with the duration of the endolymph current is sometimes modified by outside nervous conditions. This is especially true in pathological conditions.

Regarding the disturbance caused by destruction of tonus, the sudden destruction of one ear produces a profound disturbance of equilibrium; a nystagmus develops with the slow component to the diseased side. This disturbance quickly disappears. What happens? First, we must remember that tonus to skeletal muscles is not all of labyrinthine origin. Extra labyrinth tonus is an important factor. All of these tonus impulses pass through Deiter's nucleus. When the labyrinth is destroyed there is a complete blotting out not only of the labyrinth tonus on this side, but by what is spoken of as diachisis, there is a temporary depression of the extra-labyrinth tonus; within a short time this depression from diachisis disappears and there is left only the loss of the labyrinth tonus. This is adjusted in one of two ways, probably both acting together. In the first place it seems likely that there may be an increase in the extra-labyrinth tonus to take the place of the impulses to the destroyed ear and restore balance. On the other hand, there is ample evidence that the tonus from the remaining ear, which supplies impulses to both groups of muscles, those causing movements toward the opposite side and those causing movements toward the same side with the stronger impulses to those muscles causing movements toward the opposite side,—after one ear has been destroyed for some time a readjustment takes place so that equal tonal impulses emanate to both groups of muscles from the normal ear. This is evidenced by the fact that in such cases a rotation toward the normal side produces a nystagmus lasting just as long as the rotation toward the opposite side. An interesting sidelight is thrown on these cases by observing what takes place when there is a sudden loss of one ear in cases where in earlier years there had been a complete destruction of the opposite ear. Dr. Shambaugh has had an opportunity of observing but two such cases. In neither one did there occur that disturbance of equilibrium, vertigo or nystagmus, which accompanies invariably the sudden loss of one ear when the opposite ear is normal.

Dr. Shambaugh did not understand just what Dr. Boot had in mind in his objection to the statement that in the rotation experiment the movement of the endolymph in the semicircular canals was prolonged by the pressure exerted from the fluid in the much larger utricle which is also affected by the rotation but lacks much of the friction from the walls which retards the flow in the canal itself. This conclusion regarding the effects of the fluid in the utricle as well as in the perilymphatic space of the vestibule Dr. Shambaugh considered in the nature of a self-evident fact and one that needed no argument to prove.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The regular monthly meeting of the Chicago Laryngological and Otological Society was held at the Hotel Sherman, Monday evening, February 5, 1923.

The President, Dr. C. H. Long, in the Chair.

ABSTRACT OF PROCEEDINGS

Presentation of Cases:

DR. SAMUEL SALINGER presented a boy with a vitreous abscess following lateral sinus thrombosis. The sinus phlebitis developed about two weeks after the onset of a suppurative otitis media with fairly typical symptoms, except that the chills were absent. The day before operation he began to develop pains in the ankles and other joints. At operation they found a mastoid abscess, a large extradural abscess and a lateral sinus thrombosis with pus within the lumen of the vein. The abscess was cleaned out and the internal jugular ligated. (Cultures from the mastoid as well as the thrombus showed chiefly Staphylocci). Four days later the boy developed a swelling of the right lids, both becoming very edematous and the conjunctive greatly injected. The humors were clouded so that the fundus could not be seen. It was thought that the boy was developing a cavernous sinus thrombosis, but because there were no symptoms of involvement of the extraocular muscles and in the absence of exophthalmos it seemed that this might be an error. In a few days the swelling diminished, the interior chamber cleared up and one could distinguish a vitreous abscess. At the time of presentation the eye ball was somewhat shrunken and the yellow accumulation within could be clearly seen through the cornea and unimpaired lens.

The boy has practically no light perception and the doctor has been informed that the sight is permanently lost but there is no metastatic danger from this source.

DISCUSSION

DR. HARRY WOODRUFF, Joliet, said that he never had seen an abscess of the vitreous following lateral sinus thrombosis but saw no reason why it should not occur. He thought the patient was fortunate not to develop an abscess in both eyes, as occasionally happens following certain infectious diseases. The fact that the pus cells in the circulation more often locate in the joints and do not affect the eyes he thought showed that they were well protected against this invasion. In his opinion if the eye atrophied it should be removed.

DR. BURTON HASELTINE was much interested in the case because he saw an apparently identical one ten or twelve years ago. In that case there was a lateral sinus thrombosis and operation was advised. The patient was seen the following day by Dr. Ballenger, who advised the same operation although he did not know that Dr. Haseltine had previously seen the case. The patient did not die and Dr. Haseltine saw her five years later. There had been no operation of any kind but the patient had had numerous metastatic abscesses, some in the buttocks and various places throughout the body. When seen five years later the eye was completely atrophied but the patient had made a partial recovery from the arthritic condition.

DR. SALINGER (closing) said that this boy had two other metastases, one on the rim of the left auricle and the other on the scalp in the left occipital region. The operation disclosed an enormous amount of pathology. He was urged to operate again when the eye condition appeared but felt he was fortunate in not having followed that advice.

Scientific Program:

DR. SAMUEL J. PEARLMAN and BENJAMIN J. GRICHTER presented a thesis entitled: "Lymphoid Tissue of the Tonsillar Fossae following Tonsillectomy."

The essayist reviewed the embryological develop-

ment of the tonsils and the surrounding structures and the various theories concerning the reccurence of lymphoid tissue following tonsillectomy.

The tissue studied in their work was obtained from children ranging from four to fourteen years of age who were seen at the Michael Reese Tonsil and Adenoid Clinic. The tonsils were of varying degrees of hyperplasia but there was no evidence of recent acute inflammation. They were removed under general anesthesia with the Beck-Mueller tonsillotome, which they were convinced bore no relation to the recurrences. The excised tonsil was first carefully examined and the presence of the intact capsule noted before a specimen was taken from its fossa. Specimens were not taken unless the tonsil was considered successfully removed in one maneuver. Tissue was removed by means of a small punch forceps as near as possible to the anterior pillar where it forms an arch with the posterior pillar. No tissue was removed from the region of the lingual tonsil.

One hundred operated fossae were studied. Serial sections were made and every tenth section was analyzed. In 15 per cent. lymphoid tissue with distinct follicle formation was observed. In some cases shallow crypt formation was present. In ten additional specimens lymphoid tissue of a diffuse variety was seen, much of it microscopic in character. In their series 25 per cent of operated tonsillar cavities exhibited lymphoid tissue. They believed this a minimum figure for at times only one piece of tissue was removed. Study of serial sections in all instances would probably have shown lymphoid tissue in a larger percentage.

They did not conclude that this extratonsillar but intracapsular lymphoid tissue is always responsible for the recurrences. However, it seems to be the only one from which such recurrences can take place, and best explains the reformation of lymphoid masses high up in the fossa which occur now and then in spite of skilled operators and the best possible technic. Demonstrable recurrence may not be present in all instances in which lymphoid tissue can be shown to be microscopically present, since factors as yet unknown and indefiniable may determine recurrence in one instance and prevent it in another.

DISCUSSION

DR. JOSEPH C. BECK thought one should be careful about diagnosing a recurrence of tissue after a thorough tonsillectomy. If the essayists had stated that after operation the cavity was thoroughly inspected and those follicles which Tilley's picture showed were there macroscopically it might be taken seriously, but if such a well worked up thesis were allowed to go by without some discussion it would give rise to claims of curing tonsil stumps with x-ray therapy. He thought some of those present would recall that at a very large gathering of the American Radiological Society work on the tonsil stumps done by Dr. French and others in the East was shown to prove that operations for the removal of tonsils were useless because they recur. Several years ago Dr. Good read a paper before the Society showing that following tonsillectomy there was retrotonsillar tissue. In Dr. Beck's opinion many of these follicles were the remains of tonsils, whether the operation was done by ring, dissection or any other method.

DR. ROBERT SONNENSCHEIN thought that in many cases of complete tonsillectomy, so far as the eye could see, where the tonsil fossa had been inspected by pulling back the anterior pillar and where the fossa seemed as clean and as smooth as possible, weeks or months later one could see small round glistening masses similar to those seen on the posterior wall of the pharynx. In some such cases as those described by the essayists he had seen the fossa immediately after operation, with the pillars retracted and to the naked eye there was no sign of anything left. Then with a punch forceps these pieces of tissue were removed and examined microscopically and the conditions described were found.

DR. L. W. DEAN, Iowa City, Iowa, said that he felt that when tonsils were removed because they were known to be a focus of infection, the plica triangularis should be completely removed with the tonsil. In children with diseased tonsils without apparent systemic infection, an attempt should be made to save the plica and get a better cosmetic and functional result so far as the throat is concerned.

DR. CHARLES ROBERTSON recalled the case of a boy, aged twelve years, who came into his clinic with immense tonsils and adenoids. He performed complete enucleation of the tonsils and complete ablation of the adenoids. In three weeks the boy returned and presented the appearance of an immense tonsil on either side with a large adenoid in the nasopharynx which was fully as large as the original one. He was again operated upon and the masses removed so completely that one could see the fibers of the constrictor muscles. In about three weeks the patient returned with exactly the same condition, the masses were removed a third time and following that removal there was no recurrence but there was a supernumerary tonsil behind each pillar, a beginning tonsil just behind the uvula.

Dr. Robertson thought that in these cases it made little difference how thoroughly and completely the tonsils were removed as some of the growths recur, and recur in different degrees in different patients. In his opinion there is a certain condition in which lymphoid tissue and granulation tissue piles up. One case is exuberant and the other anemic. He had seen in some cases an exuberant hypertrophy in two or three weeks which eventually shrunk, leaving a nice smooth cavity.

He had noticed that in particular cases, for instance in people who were suffering with tuberculosis, if they were operated upon there would be an exuberant granulation tissue pushing up into the tonsillar fossa or some place else. He had seen many such cases. No one had ever studied the matter to determine whether there was anything in the blood that had to do with the piling up of this tissue and Dr. Robertson thought this offered a field of investigation that would be productive of good results.

DR. EDWIN McGINNIS thought this was not a post-operative recurrence of the tonsillar tissue but pieces of lymphatic tissue which were clipped out of the spaces behind the tonsils. He could confirm these findings in some work that he had done. He did not use the Beck ring because he felt that it had a tendency to slip and one might have a fringe of tonsillar tissue left around the wound. In the Sluder operation one often finds the upper part of the tonsil slipping out of the fenestrum and in enucleating the tonsil this is frequently left behind.

He believed all would agree that in the last few years there had been fewer recurrences because better work was being done. On removing tonsils under local anesthesia in dissecting back over the top one will frequently find a little tissue that slips away from the capsule and if these pieces are snipped off they prove to be lymphoid tissue.

DR. GEORGE L. RICHARDS, Fall River, Mass., agreed with Dr. Beck that with either the Sluder or any other type of operation it was easy to remove the tonsil and after passing an instrument all around in the tonsillar fossa to conclude that one had performed a perfect tonsillectomy. On the other hand if with a dull retractor one elevated the anterior pillar so as to expose the whole supratonsillar space there would frequently be brought into view a small remnant of tonsillar tissue.

Some years ago when first doing tonsillectomies he made a good many microscopic sections and found that the muscle tissue extended into the capsule and that the gross appearance of this tissue on the capsule was by no means an indication,

as claimed by some men, of too extensive removal of the tonsil.

Thorough inspection of the entire tonsillar fossa by retraction of the pillars was the only safeguard against leaving behind unrecognized portions of tonsillar tissue.

DR. JOSEPH D. HEITGER, Louisville, Ky., said that in 1914 Grunwald published an article in the Archiv fur Laryngologie and Rhin, dealing with the tissue Dr. Richards spoke of and apparently in the location from which the essayists said they had removed the tissue. Grunwald described five main types of tonsillar formation dependant upon the relation of the plica transversa to the upper and lower poles of the tonsil, and attributed the aberrant portion of the tonsil tissue, simply the portion snared off, to the development of the various plicae, but the percentage of these variations was very much lower than that found by the essayists.

DR. ELMER L. KENYON called attention to Dr. Richards' remark concerning muscle tissue being found in the capsule and said it was perhaps not commonly known that lymphatic tissue penetrates and forms islets in the capsule. He wondered whether it might not be found upon careful microscopic study that these islets completely penetrated the capsule, and thought this might explain why lymphatic tissue was found outside the capsule.

DR. SAMUEL J. PEARLMAN (closing), agreed that there was such a fold of tissue as Dr. Richards had described and it might be that in some instances some of it had been taken for study. Many cases did not present such findings. They took sections along the course of the anterior plica, not always up in the angle but always at least half way up, so that there was never any question of getting tissue around the lingual tonsil. He believed there was sufficient anatomical reason for finding this tissue even after apparently complete removal. Some of the tissue was microscopic and could not be seen with the naked eye. Occasionally they found very small follicles under the microscope; other tissue was diffuse in character. They stated in the paper that they did not know whether this lymphoid tissue would atrophy or hypertrophy and also state that anatomically, lymphoid tissue is often present following apparently complete removal of the tonsils. He did not think the tissue they examined was granulation tissue as it had none of the appearance of granulation tissue.

DR. GEORGE W. MACKENZIE, Philadelphia, Pa., presented a paper entitled: "Differential Diagnosis of Labyrinthitis Syphilitica Tarda and Neurolabyrinthitis Syphilitica."

DR. MACKENZIE said that these two forms of syphilis in the hearing apparatus were entirely different affections occurring in widely different stages in the same general disease, and presenting different pathologic and clinical aspects and prognoses. Furthermore, they may be found eventually to require different forms of treatment, judging from the different results obtainable from the same form of treatment.

As early as 1907 and 1908, while studying the galvanic reaction in a large series of deaf mutes, it was observed that the majority of cases of deafness of the so-called nerve type presented a negative galvanic reaction of the eighth nerve. This was particularly true of those cases in which syphilis was the cause of the deafness. The reactability of the vestibular branch of the eighth nerve was interpreted as negative when neither the positive nor the negative electrode applied to the external auditory canal, with a current strength of 20 m. a., or as much as the patient could tolerate, produced the slighest alteration in the existing nystagmus or caused a nystagmus to appear that did not exist before. A corroborative test was generally employed, that of opening and closing the current, using first the cathode and then the anode with a current strength of 6 m. a.

The reactability of the cochlear branch of the eighth nerve was tested after the same manner as the vestibular; however, the reaction when positive is different, being indicated by tinnitus. When no such reaction is obtainable with 20 m. a., with the cathode, it may be concluded that the nerve is nonreactive, or out of function, when it is superfluous to try the anodal reaction. Normally with 6 m. a. closing the cathodal current or opening the anodal produces a momentary, but distinct booming sound in the ear of the side to which the electrode is applied. When no such sound is produced it is accepted as evidence of the negative reactability of the nerve.

Cases were found now and then among the syphilitic group which, in spite of complete deafness and nonreactability of the vestibular labyrinth to the turning and caloric tests, presented quite normal electrical reactions, which at first made them feel that perhaps Bárány was right in saying "that the galvanic test has no clinical value," but the explanation is simple enough now.

Neurolabyrinthitis syphilitica could better be labeled meningo-neurolabyrinthitis for if there were no meningitis there would be no neuritis. Acoustic nerve neuritis results from the extension of meningitis and compared with the other cranial nerves they find it the most common form of extension. Syphilitic acoustic nerve neuritis is found much oftener than syphilitic optic neuritis. Whether syphilitic meningitis ever occurs without some involvement of the eighth nerve is doubtful and the more pronounced the meningitis, the more pronounced the neuritis. The pathologic findings show that the meninges are involved to the superlative degree in the syphilitic infiltration, the eighth nerve to the comparative and the labyrinthine spaces barely positive in the average case.

In the second form of aural syphilis, labyrinthitis syphilitica tarda, the labyrinth is primarily involved and from every indication now available the nerve escapes entirely. This disorder occurs very late, usually in the hereditary form of syphilis, when it forms one of the symptoms of the complex known as Hutchinson's triad. It is rather an unusual manifestation of acquired syphilis. According to Hutchinson it never occurs before the fifth year, more often about the age of puberty and very rarely is seen after the thirtieth year. The writer has seen and reported one case occurring in a congenital syphilitic that had begun when the patient was forty-three years of age.

The clinical aspects of neurolabyrinthitis syphilitica and labyrinthitis syphilitica tarda differ sufficiently to permit of a ready differentiation. In neuritis of the eighth nerve, if the involvement is sufficient to impair the normal conducting power of the nerve, the impairment can be detected by the galvanic test already described. In cases of labyrinthitis with an intact nerve, the galvanic reaction remains normal. The writer has observed many cases of bilateral labyrinthitis syphilitica tarda with complete loss of vestibular

function to the turning and the caloric tests, manifest perfectly normal reactions to galvanism. Again, cases of complete bilateral deafness have been seen in which the galvanic reaction of the cochlear branch of the eighth nerve has remained normal. Other cases of bilateral loss of both the hearing and the vestibular functions from labyrinthitis tarda have been examined with perfectly normal galvanic reactions of both acoustic and vestibular branches of the eighth nerve; so from the standpoint of clinical diagnosis it is not at all difficult for the examiner to distinguish these two processes.

The experience of the writer prompted him to the decision that if he were allowed to select but one of two alternatives in arriving at a diagnosis of syphilis in doubtful cases he would unhesitatingly decide in favor of the functional tests in preference to the Wassermann. There are cases of only moderate impairment of function, vestibular or cochlear, and cases of beginning impairment, in which the galvanic and functional hearing tests have given advance information, thus permitting the institution of treatment earlier than might have been possible otherwise.

DISCUSSION

DR. GEORGE E. SHAMBAUGH expressed the sense of the Society in saying they were all grateful to Dr. Mackenzie for coming to Chicago and that they all appreciated very much his clear, lucid discussion of an interesting condition.

Dr. Shambaugh asked Dr. Mackenzie what he had to say about the use of arsphenamin in luetic cases. He could recall three cases where a patient afflicted with lues had developed labyrinthine symptoms with a more or less profound destruction of the hearing, where the administration of arsphenamin had been followed rather abruptly by a very marked exacerbation of the labyrinthine symptoms. The idea that improvement follows further use of the drug had not been borne out in these cases.

DR. J. GORDON WILSON thought there was no doubt that theoretically electrical stimulation is better than either caloric or rotation stimulation. His experience was that in man the results of electrical stimulation were divergent and not sufficiently sharp and reliable. He used three to four milliamperes and so avoided discomfort and pain. Within the last month he had occasion to observe in man in erect posture electrical stimulation of the vestibular mechanism with such a current and noted that while typical falling reaction was prominent and some vertigo was present there was very little or no nystagmus.

In hereditary cases it is recognized that the majority of them become apparent between the eleventh and seventeenth year, usually associated with syphilitic stigmata in other parts of the body. In the case of eighth nerve lesions in acquired cases of syphilis, one meets with three varieties: First, where both functions are affected; second, those in which disease falls chiefly on the acoustic apparatus; and third, those which involve chiefly the vestibular. The latter are frequently delayed in their onset, coming first into notice with a crisis.

Dr. Wilson had seen acute exacerbations after the use of hypodermic doses of salvarsan so he now prefers to use mercurial treatment, before using salvarsan. In hereditary cases treatment is unsatisfactory and in marked contrast to the results obtained in acquired cases.

DR. ALFRED LEWY said that some years ago he undertook to follow up some of Dr. Mackenzie's investigations of the auditory nerve with the galvanic current. He thought he had learned the proper technic, but found that the attempt became so painful to the patient before a diagnostic conclusion could be arrived at that the test had to be discontinued. He thought the tests probably necessitated a special type of apparatus in which the current strength could be absolutely controlled, and a milliamperemeter of greater accuracy and delicacy than the ordinary. The instrument which he used was attached to the street current, which constituted another difficulty, as the current, at least in Chicago, varies suddenly according to the demands on it. His apparatus was not capable of controlling it to the fine degree of precision necessary to make this delicate test.

Dr. Lewy asked Dr. Mackenzie, in closing, to describe in detail the type of apparatus he used, and to state whether or not he used the street current or some type of battery that could be controlled more accurately.

DR. L. W. DEAN, Iowa City, Iowa, said he had been interested in the galvanic tests of Dr. Mackenzie for many years. He asked Dr. Mackenzie if the late manifestations of syphilis occurring in tabes were shown by his tests to be labyrinthitis of neurolabyrinthitis.

DR. JOSEPH D. HEITGER, Louisville, Ky., said that his experience was similar to that of Dr. Wilson. Finally he went down to Dr. Mackenzie and took up the work with him. Dr. Heitger had been looking for a large nystagmus, such as would be obtained in the use of the caloric or turning test, but it was pointed out that the real nystagmus to look for was just a tiny little jerk. He accordingly had an apparatus constructed under the direction of the electrician and Dr. Mackenzie which had a very delicate milliamperemeter, rheostat and polarity changer and with this a good deal of the pain mentioned by Dr. Lewy could be eliminated by getting the reaction at just the moment it should be obtained, having the electrodes, the patient's hands and tragus well soaked with salt solution. The greater resistance that is offered the more pronounced the pain.

Dr. R. Foster Moore in a recent book made the statement that interstitial keratitis could not be prevented by any form of treatment. This was a rather broad statement and coming from a man of Dr. Moore's experience in ophthalmology it must be accepted. It was a question with Dr. Heitger whether any of the tarda forms could be prevented even if detected early. In a series of studies of congenital syphilis in the Department of Pediatrics in the Barnes Hospital in St. Louis, including several hundreds of cases, it was of considerable note that only three cases of the classical Hutchinson triad were found.

Probably many of the cases slipped through the examiner's hands because a complete functional examination was not always made. Dr. Heitger thought that if both ears were tested thoroughly both with the functional tests of the cochlea and the other tests as given by Dr. Mackenzie all would have the same experience that he had had; namely, that it was a matter of learning a technic and controlling it carefully.

DR. NORVAL H. PIERCE said that Dr. Mackenzie had been advocating for years and years the use of the electric reaction in cases of labyrinthine trouble, but for some reason or other it had not become popular. The pain and uncertainty had undoubtedly been caused by an improper apparatus, but that the test was of great value he was convinced and believed the profession was to blame for not using this valuable means of diagnosis more frequently, especially if one could differentiate disease of the terminal apparatus and of the nerve itself. He did not believe that the profession was absolutely dependent upon this method for this differential diagnosis for the very therapeutic tests Dr. Mackenzie recommended would locate the syphilitic disease. If under mercury the patient recovered there was no doubt that the disease was meningitis; if not the disease was in the labyrinth.

DR. SAMUEL SALINGER asked if Dr. Mackenzie had ever tried applying the galvanic current direct to the drum membrane. Dr. Salinger had done this by means of a sponge placed directly in contact with the drum membrane and had found it possible to obtain a reaction with a current of not more than one or two milliamperes. He was convinced that if one had the proper milliamperemeter they could obtain the reaction with less pain than was possible by the other method and without having to pass the current through the enormous amount of tissue that is necessary when the electrode is applied to the tragus.

(To be continued)

CRAWFORD COUNTY

At the regular annual meeting of the Crawford County Medical Society held in the Robinson Hos-

pital, Robinson, Ill., Dec. 13, 1923, the following officers were elected for the year 1924:

Dr. O. G. Taylor, president, Palestine; Dr. L. R. Illyes, vice-president; Dr. L. P. Sloan, secretary and treasurer; censors: Drs. G. H. Henry, C. H. Voorheis and B. L. Price; delegate to the State meeting, Dr. L. P. Sloan; alternate delegate to the State meeting, Dr. C. E. Price; member legislative committee, Dr. B. L. Price; program committee, Drs. B. L. Price, H. N. Rafferty and L. P. Sloan.

Dr. A. L. Lowe gave a lengthy scientific discussion on diabetes mellitus with special regard to the dietetic management and the administration of insulin. The paper was freely discussed.

Dr. C. D. Ryerson of West York then presented a case of Addison's disease with the history. This case proved to be of great interest to the members of the society who were present.

A rising vote of thanks was extended Dr. Ryerson for his courtesy for presenting the case.

Owing to the lateness of the hour Dr. H. N. Rafferty declined to read his paper on "Pre-operative and Post-operative Care of Surgical Cases."

Adjournment was taken.

There were 14 members present.

L. P. Sloan,
Secretary-treasurer.

GREENE COUNTY

The Greene County Medical Society met at Roodhouse on Friday, Dec. 14, 1923, with fourteen members present. The business session was held at Hotel Roadhouse, where a splendid dinner was served by the management, to the credit of the Roodhouse doctors. In the absence of the president and vice-president, the secretary called the meeting to order and called for nomination of a chairman. Dr. H. W. Smith was unanimously elected chairman. The minutes of last meeting read and approved. The secretary read letters from Dr. Edward H. Oschner, president of the State Society, and letters from the director of the publicity committee of the State Society, deploring conditions in White Hall, that the physicians were working under unusual difficulties, with active opposition on the part of an ignorant individual who happens to be a newspaper editor.

Dr. Burns gave a talented and instructive talk on quarantine in contageous cases, and their management. Dr. W. H. Garrison presented some phases in the case of one individual guarantine, the son of the editor of our only local paper, that brought forth from him in his paper, the most vitriolic condemnation of all the physicians of this city, county and state having to do with quarantine regulations:

The following officers were elected for the ensuing year: Dr. W. C. Tunison, elect, assumes the office of president; Dr. W. H. Garrison was elected vice-president and president elect; W. T. Knox was elected Secretary-Treasurer; Dr. O. L. Edwards, was elected Censor; Dr. W. T. Knox was elected delegate to the State convention and Dr. F. N. McLaren, alternate. Adjournment was taken to the Dreamland theatre for the scientific session, where a splendid illustrated address was deliveed by Dr. Chas. F. Sherwin of St. Louis on "Some Common Fractures and Their Management." The slides illustrating same were good and the Hodgen Splints with new attachments as made use of by himself in the City Hospital in St. Louis. The whole subject was presented in a manner easily understood, and was enjoyed by all present. Dr. Hodgen, a famous surgeon of St. Louis during the Civil War, made a special study of fractures of the thigh and his splint is used by most physicians of the West, at the present time. Dr. Sherwin discussed fractures of the arm and bones above the ankle in a manner, that was interesting. The doctor possesses a thorough knowledge of his subject and the ability to present it in a way to make himself clearly understood.

W. T. Knox,
Secretary.

VERMILION COUNTY

Meeting called to order by President A. Merrill Miller. After reading of minutes and their adoption, several committees reported. Dr. F. A. Baumgart of Danville then read a practical paper on "Medical Economics." Dr. Baumgart called attention to the more satisfactory compensation now received for medical services, comparing them with fees in former years. He also stressed the more cordial relations now existing between medical men than that which obtained a dozen years ago. The high spot in his paper was that all these things had been brought about by more efficient organization and co-operation, without which there could be no substantial progress.

The following officers were elected for the following year: president, E. G. C. Williams; vice-president, Paul Fithian; secretary-treasurer, H. E. Koons; censor, A. Merrill Miller.

H. E. Koons, M. D.,
Sec.-Treas.

Marriages

Samuel Hancock, West Frankfort, Ill., to Miss Flo Young of Mount Vernon, recently.

William J. Hurley, to Miss Frances Anna Kruez, both of Chicago, Jan. 23.

Personals

Dr. B. Barker Beeson, Chicago, has been elected a corresponding member of the Danish Dermatological Society.

Dr. Hugh E. Cooper, Peoria, was elected county physician to succeed Dr. Frederick H. Maurer, resigned.

Dr. Albert E. Campbell has resigned as city superintendent of health of Springfield.

Dr. Beveridge H. Moore, Chicago, has been appointed attending orthopedic surgeon to the Children's Memorial Hospital.

Drs. William A. Pusey and Henry Bascom Thomas addressed the members of the Iowa and Illinois District Medical Association, January 10, at Davenport. The subjects were "Our Changing Knowledge of Eczema" and "Difficult Fractures," respectively.

Dr. Henry F. Helmholz, head of the section of children's diseases, Mayo Clinic, Rochester, Minn., was the principal speaker at the annual meeting of the Infant Welfare Society of Chicago, January 16.

News Notes

—The sum of $400,000 has been bequeathed to the Children's Memorial Hospital under the will of Miss Martha Wilson.

—Additions to the West Suburban Hospital to bring its capacity to 500, which will cost $1,250,000, will be started at once.

—Under the will of Mrs. Albertine Gehrmann, widow of Dr. Adolph Gehrmann, the sum of $45,000 is left to provide a fund for "sick and disabled physicians."

—The Globe Hospital, Freeport, has been purchased by the Deaconess Society of the Evangelical Church of the United States, which will take charge immediately, and renovate the institution.

—According to the annual rejort of the Psychopathic Hospital of Cook County, among 5,550 patients confined in that institution during 1923, there were 1,310 cases of acute alcoholism, and 1,920 cases of dementia praecox.

—A public lecture by Elmer V. McCollum, Ph.D., Johns Hopkins University, Baltimore, on the "Relation of Diet to Bone and Tooth Development and Tooth Preservation" was given at the University of Chicago, January 11, under the auspices of the local Chapter of Sigma Xi.

—The administration, hospital and surgical sections of the Palmer Tuberculosis Sanatorium, Springfield, were opened for the reception of patients, January 8. These buildings, erected at a cost of $75,000, are part of a building program which will probably be completed during 1924. The hospital section, to be devoted to surgery of the lung and surgical tuberculosis, has a bed capacity of thirty-five.

—The Chicago College of Dental Surgery, Harrison and Wood streets, has been acquired by Loyola University. The executive management of the school, its teaching faculty and its name will remain unchanged. Drs. Truman W. Brophy, C. N. Johnson and William H. Logan will continue to administer the affairs of the school. One provision of the transfer was that a percentage of the annual gross revenue of the school will be devoted to the formation of permanent endowment for the advancement of dental education and research. The Chicago College of Dental Surgery was founded forty-two years ago.

—Mrs. Montgomery Ward announced, January 20, the gift of another $1,000,000 to Northwestern University. A contract of affiliation has been made with Wesley Memorial Hospital, to effect the construction of a large hospital on the McKinlock campus at Lake Shore Drive and Chicago Avenue. It is proposed to erect a 300 to 400 bed hospital for teaching purposes either adjacent to the medical building made possible by Mrs. Ward's gift, or under the same roof with it. Adjoining this will be a hospital for private patients; and at a later date a building for children, an orthopedic center, and neurologic and psychiatric buildings will be erected, in addition to a nurses' home and home for hospital employees. The contract requires that the hospital be constructed before Jan. 1, 1929. Mr. Gilmore, superintendent of the hospital, stated that an effort will be made at the general conference of the Methodist Episcopal Church in May to have the church take over the present Wesley Memorial Hospital and operate it as a hospital and nurses' training school for negroes. The campaign to raise funds for the new hospital will begin at once.

—John T. Milliken & Company, St. Louis, Missouri, announces the appointment of E. F.

Gillis as General Sales Manager with headquarters in the main office. Mr. Gillis comes from the firing line, having formerly been in charge of the Western Sales Division, at Denver, Colorado, where he distinguished himself creditably.

—The administration, hospital and surgical sections of the Palmer Tuberculosis Sanatoria, at Springfield, were opened for the reception of patients early in January. These buildings, erected at a cost of $75,000, are a part of a general building program which will probably be completed during 1924. The hospital section, to be devoted to surgery of the lung and surgical tuberculosis, has a bed capacity of thirty-five. The surgical operating unit contains, in addition to large operating, sterilizing and dressing rooms, a very complete x-ray and general laboratory.

—Once more we glady extend congratulations to our old friends, Huston Brothers Company, upon the extensive orthopedic addition to their business. We understand that they have secured as their foreman a Lorenz expert who has recently arrived from Vienna. Physicians in need of elastic stockings, abdominal supporters, sacro-iliac corsets, or anything in the line of orthopedic appliances, may safely intrust their orders or inquiries to this old, established firm. We are informed that this new year, 1924, is the thirty-sixth year since Huston Brothers Company started in business—still another reason why this journal wishes to extend congratulations.

—Rev. James Hayter, reporting to the Presbyterian Board of Foreign Missions at 156 Fifth avenue, New York, concerning the Presbyterian Mission at Guatemala, asks that some *American surgeon volunteer* for service at the Guatemala station where the demands upon the hospital have reached such a state that the doctor and nurses are worked beyond human endurance. It has been found necessary to restrict the number of major operations, though as many more apply than can be accommodated. An addition surgeon would double the value of the hospital in a district where the hospital is a great Christianizing influence. Dr. Charles A. Ainslie and Mrs. Bessie M. Nurminger are reported to be on the verge of a breakdown because of the stress they are undergoing.

Deaths

Forrest Russell Butterfield, Chicago; College of Physicians and Surgeons, Chicago, 1905; a Fellow A. M. A.; served in the M. C., U. S. Army, during the World War; aged 44; died, December 25, at the Jackson Park Hospital, of injuries received when his automobile was struck by a train.

William Milligan Ferguson, Nevins, Ill.; Jefferson Medical College of Philadelphia, 1883; member of the Illinois State Medical Society; formerly county coroner; aged 62; died, January 12, of heart disease.

Charles Harris Hibbe, Chicago; Hahnemann medical College and Hospital, Chicago, 1895; aged 69; died, January 3, at the Alexian Brothers' Hospital, of septicemia.

Zachariah Hickman, Benton, Ill.; University of Nashville (Tenn.) Medical Department, 1861; Civil War veteran; aged 77; died, December 30, 1923, of senility.

Edward S. Highley, Glenellyn, Ill.; Chicago Homeopathic Medical College, 1886; formerly county physician; aged 61; was instantly killed, December 31, 1923, when the automobile in which he was riding was struck by a train.

Addison Coffea James, Springfield, Ill; Rush Medical College, Chicago, 1880; also a druggist; aged 70; died, January 13.

Adam Ewing Miller, Jerseyville, Ill.; Rush Medical College, Chicago, 1869; aged 85; died, December 22, 1923, of heart disease.

William Parker, Peoria, Ill.; Bennett Medical College, Chicago, 1880; Medical Department of the University of the City of New York, 1890; member of the Illinois State Medical Society; aged 72; died December 16, 1923.

George M. Schaubel, Chicago; Chicago Homeopathic Medical College, 1894; a Fellow A. M. A.; on the staffs of the Norwegian-American, and the Norwegian Deaconess Hospitals; aged 50; died, December 21, 1923, of myocarditis.

Edwin Augustus Sell, Springfield, Ill.; Medical Department of the University of the City of New York, 1883; also a druggist; aged 60; died, January 5.

Charles A. Stone, Belvidere, Ill.; Chicago Homeopathic Medical College, 1877; aged 74; died, December 9, of cerebral hemorrhage.

George Sultan, Chicago; Baltimore (Md.) Medical College, 1893; a Fellow A. M. A.; aged 62; died suddenly, January 15, of angina pectoris.

Charles Worth Talbott, Lake Villa, Ill.; Rush Medical College, Chicago, 1883; a Fellow A. M. A.; aged 72; died, December 26, 1923, of chronic nephritis.

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